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TO ADVISE UPON LAKE FREIGHT RATES.

It has long been felt by a number of vesselowners that if a majority of interests would combine an effort might be made to fix a minimum rate of freight, on certain bulk cargoes, below which no vessel should charter, or fix charters ahead previous to the opening of navigation. In pursuance of this project a special meeting of the executive committee of the Lake Carriers' Association will be held at the office of Capt. James Corrigan, Cleveland, on Wednesday, December 15. The meeting has been called by Capt. George P. McKay, secretary of the executive committee, by order of Capt. James Millen, of Detroit, president of the association, for the purpose of discussing the subject of changing the by-laws so that the subject of lake freights can be taken up. This matter has come up several times during the past few years, but no action has ever been taken, although the members of the association, as vesselmen, signed an agreement a few years ago not to carry coal below a fixed rate. The only vesselmen that received any benefit were those that did not enter into the agreement and a few that chartered their boats at a figure a shade below the fixed rate. It is well known that some of the leading vesselmen, especially at Buffalo, are opposed to the plan, and they are not backward in saying that a big mistake will be made if the association undertakes to fix carrying charges. Like all other markets the lake freight market is governed by supply and demand.

President Millen will attend the meeting, and it is expected that all members of the association, whether they are members of the executive committee or not, will be present to advise on this very important matter.

ST. MARY'S RIVER NAVIGATION.

Owners who have vessels on Lake Superior were greatly pleased with the announcement from Detour on Tuesday night that about a dozen vessels had passed down during the day with apparently no difficulty on account of ice. Cleveland representatives of owners who have agreed to pay pro rata expenses on account of ice, are constantly in communication with Sault Ste. Marie. Capt. Smith made a trip down the river from the Sault on Tuesday, and telegraphed upon his return that the conditions are just as they have been for three or four days past—no need whatever of tugs to break ice as yet. The general disposition here is to give tug owners liberal compensation for their services if required. There was about three inches of blue ice in Mud Lake and an inch of snow ice over it. Boats are having no trouble in getting through so long as the weather remains as it is now, as the channel is kept open by passing boats. Should the weather get very cold for twenty-four hours an ordinary boat would need assistance. There is no ice whatever in the river except at Mud Lake. It is well known, however, that a cold snap lasting only for twenty-four hours would tell a different tale, as it frequently has done in the past. Wednesday, however, was a mild spring day on the lower lakes while the Weather Bureau reported it calm with a fairly high temperature, 26° to 28°, Duluth and Sault Ste. Marie respectively.

AIDS TO NAVIGATION ON THE LAKES.

The Secretary of the Treasury has not hesitated to cut down the estimates for aids to navigation on the lakes even to \$150,000 in one case. The estimates as they now stand are for fixed or stationary aids as follows: Cheboygan river range light station, \$1,750; Lake St. Clair light and fog stations, \$20,000; Middle Island, \$25,000; Mud Lake light station, \$3,500; head of St. Mary's river, range light, \$1,000; Crisp's Point, light and fog, \$18,000; Rock of Ages, light and fog signal station, \$50,000; Eagle river, light, \$20,000; Martin's Reef, light vessel, \$15,000; depot for eleventh district, \$15,000; Grand Traverse, Cab Head, fog light, \$5,500; Tail Point, light and fog, \$7,500; Fisherman's Shoal, light

and fog, \$50,000; Point aux Barques, light and fog, \$32,000; Escanaba, fog, \$5,000; Michigan City, fog, \$5,500; Portage Lake, light, \$3,500; Kewaunee, light and fog, \$7,500; depot for ninth district, \$15,000; tender for ninth district, \$85,000; Toledo, light and fog, \$75,000; Grassy Island range, light, \$5,000; Grosse Isle, North Channel range, \$3,500; Grosse Isle, South Channel range, \$5,000; depot for tenth district, \$35,000; tender for same \$85,000.

Cleveland reduced from \$450,000 to \$350,000; Black river, Michigan, \$32,000; Detroit river, \$91,257; Grand river, Mich., \$250,000; Hay Lake canal, \$494,115; Kalamazoo river, \$145,000; Saginaw river, \$20,000; Chippewa river, \$80,000; Sturgeon Bay and Lake Michigan canal, \$63,500; Minnesota river, \$11,000; Ashtabula, \$480,600; Black river harbor, \$38,500; Conneaut, \$495,000; Fairport, \$250,000; Huron, \$75,000; Port Clinton, \$15,000; Sandusky, \$185,000; Toledo, \$300,000; Cheboygan, \$10,000; Frankfort, \$65,000; Grand Haven, \$30,000; Grand Marais refuge, \$600,000; Holland, \$15,000; Ludington, \$15,000; Manistee, \$50,000; Marquette, \$100,000; Monroe, \$11,000; Muskegon, \$110,000; Pentwater, \$40,000; Petoskey, \$55,000; Portage Lake refuge, \$160,000; Presque Isle refuge, \$30,000; St. Joseph, \$100,000; Sand Beach refuge, \$250,000; Saugatuck, \$10,000; South Haven, \$45,000; White Lake, \$48,000; Ashland, \$100,000; Green Bay, \$38,000; Kenosha, \$34,000; Milwaukee \$14,000; Milwaukee refuge, \$155,650; Oconto, \$46,710; Racine, \$23,935; Sheboygan, \$26,600; Two Rivers, \$19,800; Agate Bay, \$71,708.

VESSELS CLASSED.

The American Shipmasters' Association have classed or rated this week in the "Record of American and Foreign Shipping" the following vessels: Ship Challenger; barge Maple Hill; half brig Sullivan; three-masted schooner Wm. F. Green and the Russian bark Ilos.

ANOTHER GENERAL CARGO STEAMER.

Since suggesting on another page that there was room for a few more keels to be laid at lake shipyards, word comes from Buffalo that the Western Transit Co., the lake line or connection for the New York Central railroad, has taken the lead of the other lines in accepting the 400-foot type steamer for its traffic. A contract has been closed with the Detroit Dry-Dock Co., which has built all the steamers on that line, for a boat of that class, to trade between Buffalo and Duluth. The new steamer will be out early next season.

Other shipbuilders figured with the Western Transit Co. for this boat, and they were given to understand that the contract would not be closed for a few days yet. After all it was almost a foregone conclusion that the contract would go to Detroit as the owners are well satisfied with their fleet of boats built by the Detroit Dry-Dock Co.

SAGINAW AND BAY CITY COMMERCE.

During the season there was cleared from the Saginaw river a total of 89,137,511 feet of lumber, 8,351,000 feet being from the port of Saginaw and 80,786,511 feet from Bay City. It should be noted, however, that many vessels that obtain partial loads at Saginaw receive their clearance papers at Bay City, where they finish loading, and that the bulk of Saginaw shipments are by rail. Lath and shingles are now almost exclusively handled by rail.

During the season there arrived at Saginaw river by water a total of 32,383,150 feet of lumber, of which 27,654,150 was entered at the port of Bay City, and 4,729,000 feet at Saginaw. Only last week about 4,000,000 feet entered at Bay City belonged to Saginaw firms and is being shipped by rail to its owners.

The lumber receipts for the river in 1896 were 21,046,312 feet. During the season just closed there reached the Saginaw river 147,280,234 feet of Canadian logs. The shipments of lumber in 1896 from the river were 68,743,000 feet.

AMERICAN MERCHANT MARINE.

The policy of encouraging American shipping by discriminating legislation, as well as under existing law, will be put in full force by the present administration as soon as the revenues permit. The report of Hon. E. T. Chamberlain, Commissioner of Navigation, was given out at the Treasury Department, Washington, D. C., this week. After pointing out the nature of our expenditures for maritime purposes, amounting annually to about \$80,000,000, the report dwells upon the different modes of raising money to meet these expenditures in the United States and Great Britain, showing that three-fourths of the tonnage in foreign trade entering and clearing at ports of the United Kingdom is British shipping, yet vessels are taxed to maintain the light-house service and for other maritime purposes of that country. Though three-fourths of the tonnage in foreign trade entering and clearing at ports of the United States is foreign, foreign shipping contributes about \$650,000 to our expenditures of \$80,000,000. The United States is more liberal in its charges towards British, German and French shipping than are those countries respectively to their own shipping. This matter is referred to as one requiring the consideration of Congress. It is also deemed advisable that any scheme for the promotion of our merchant marine should take into consideration our fishing interests on the Atlantic and Pacific, and as bearing on the subject, the report contains a statement of the Canadian and Japanese fisheries bounty bill.

The report of the Commissioner of Navigation will also show a saving to the government of \$87,140 by the abolition of useless forms under the Navigation Department, and a reduction of burdens upon American ship owners from similar charges amounting to \$80,700. The most important item of the saving to the government is the repeal of the German tonnage tax exemptions, which is computed at \$85,000. These figures may be an element in the plans of those who advocate a liberal policy towards American shipping. Still another element will be the computation of the profit now made by the government in carrying foreign mail. This profit does not, of course, represent the net proceeds of handling and sorting of letters within the United States for foreign points, nor after their arrival in the United States from abroad, but it makes a favorable showing of the net excess of receipts for ocean service over the expenditures for that purpose. Taking these various items together it is believed that a plan can be worked out which can be passed through Congress without difficulty.

REPORT ON PANAMA CANAL.

Consul General Gudger, at Panama, has made a report to the State Department on the condition of the Panama Canal. He says that it is whispered that England is doing all in her power to obtain control of the canal. France may not push the work forward, but some other nation or some other company will surely do so if those in charge forfeit their rights.

The canal when completed will extend from Colon on the Atlantic to Panama on the Pacific, fifty-four miles. All along the route are sheds full of new and costly machinery. It was estimated the latter had cost \$100,000,000, and that there has been expended on the canal a total of \$275,000,000. A conservative estimate is that the canal is about one-third finished, but with the new machinery on hand it is said that the remainder of the work can be completed for \$150,000,000. The report is that a force adequate to finish the project in from seven to ten years will be put to work. During the next sixty days a committee is to investigate the progress of affairs, and an effort will be made to get more money to continue operations. The canal is practically completed from Colon to Bajero, fourteen miles, but this is the least expensive part. The great difficulty is in passing the Culebra Ridge. The width of the canal will be 160 feet at the top and 72 feet at the bottom, except through the ridge, where it will be 78 feet wide at the top and 29 feet at the bottom.

NEWS AROUND THE LAKES.

CHICAGO.

Special Correspondence to The Marine Record.

The lumber schooner fleet are nearly all in port and laid up.

Several cargoes of wheat have recently arrived here from Duluth.

A large number of steamers have left here during the past few days with grain for lower lake ports.

H. W. Cook & Co., chartered the steamer Fred Pabst for clipped oats to Buffalo at 1 3/4; steamer Venezuela, for corn to Buffalo at 2 3/4 cents.

At the shipyard here the steamers City of Duluth and William Edwards, were in dock for repairs to stern bearings; the tug Alert for re-calking and ironing.

The Goodrich Co.'s steamer Atlanta, Capt. Wm. Nicholson, arrived here Saturday morning on her last trip this season, between Chicago, Grand Haven and Muskegon. She has had a very successful season.

James M. Crowley, mate of the steamer W. J. Averill, finished up the season well by entering into the bonds of matrimony with Mary Lennon, of Chicago, on Wednesday, Dec. 8th. It is hoped they are well mated.

The steamer George W. Morley, light, towing the barge Moravia from Milwaukee to Chicago, caught fire on Lake Michigan. Capt. Owens ran her ashore off Evanston where she burned to the water's edge. No lives were lost. The Independent Tug Line tug D. P. Hall, picked up the Moravia and towed her into Chicago.

The steamer W. P. Ketcham, laden with lumber, when going up to the Superior Lumber Co.'s dock in the north branch of the river, broke her wheel near Fullerton avenue bridge. She had not got to the dock Tuesday in consequence of the low stage of water in the river.

Capt. John Prindiville chartered the steamer George Farwell for corn to Midland at 2 3/4 cents; steamer Corsica, for rye to Fairport at 2 1/2 cents; steamers Roman and Grecian, for corn to Erie at 2 1/4 cents; steamer Vega, for oats and barley to Buffalo at 2 cents; steamer Vulcan, for wheat from Manitowoc to Buffalo at 2 1/2 cents; steamer Niko, corn to Port Huron at 2 cents; steamer Sitka, wheat to Erie at 1 1/2 cents.

J. J. Rardon & Co. chartered the steamer Aragon for corn to Ogdensburg, to hold, at 4 1/2 cents; steamer Henry Chisholm, for corn to Erie at 2 1/2 cents; steamer Hesper, for oats to Buffalo at 2 cents; steamer Shenandoah, corn to Buffalo at 2 1/2 cents; steamer City of Cleveland, for rye to Erie at 2 1/2 cents; steamer John F. Eddy, for corn to Detroit at 2 cents; steamer Caledonia, for wheat to Buffalo, to hold, at 3 cents.

The Chicago Nautical school, 20 Michigan avenue, W. J. Wilson principal, has commenced the winter term with twenty-four pupils. A young officer from Michigan joined the class last Friday. His father (a prominent lake captain) sent him to Chicago for the winter, simply to take the two courses. A large class of masters and mates are expected to commence their studies after the holidays. There are quite a number of the best boats still sailing and it will be principally the officers of those vessels who will attend. The hours of attendance are from 7:30 to 9:20 p. m.

The schooner Stafford, Capt. Otto Olsen, arrived here Tuesday morning from Traverse Bay. She was badly iced up and had about 5 tons of ice on deck which had frozen solid as the heavy seas broke over her. She left Traverse Bay Friday, with the wind blowing hard from the southwest, and came along all right until Sunday morning, when they were off Little Point Sauble a heavy gale accompanied by snow sprang up from the westward. The schooner weathered the gale through the night and Monday morning found them off Waukegan, when the gale and snow increased and compelled them to run back to Milwaukee for shelter. The tug Welcome, Capt. Tom Barry, took her in tow at Milwaukee Monday night and towed her to this port. She is being stripped and will go into winter quarters when unloaded.

The stocks of grain in Chicago elevators on last Saturday evening were 5,614,000 bushels of wheat, 17,764,000 bushels of corn, 1,769,000 bushels of oats, 617,000 bushels of rye, and 865,000 bushels of barley. Total, 26,629,000 bushels of all kinds of grain, against 23,785,000 bushels a year ago. For the same date the secretary of the Chicago Board of Trade states the visible supply of grain in the United States and Canada as 34,845,000 bushels of wheat, 39,949,000 bushels of corn, 15,462,000 bushels of oats, 3,553,000 bushels of rye, and 4,750,000 bushels of barley. These figures are larger than the corresponding ones of a week ago by 1,189,000 bushels in wheat, smaller by 2,109,000 bushels in corn, and larger by 201,000 bushels in oats. The visible supply of wheat for the corresponding week of a year ago decreased 3,602,000 bushels.

BUFFALO.

Special Correspondence to The Marine Record.

The lake lines will begin next season's business and will go to New York on the 15th inst. for a general meeting with the trunk line presidents. Another attempt will be made to secure uniformity in the freight rates of the lake lines and to prevent disastrous rate cutting.

With the prospect of several days good weather vessel agents say they expect to charter several more vessels for the upper lake. The J. J. Williams was placed for Chicago Wednesday, at 60 cents.

Erastus Wiman, president of the Consolidated Lake & Canal Transportation Co., is in England for the purpose of

raising money to build boats and equip the big company. He wants to get something like \$1,000,000 or more, and if he succeeds the work of the company will begin during the coming season. Last winter an effort was made to put through a bill allowing the company to incorporate with a capital of \$400,000, and with the privilege of putting a great fleet of steel boats on the canal and lakes, with facilities for giving a through bill of lading from any point in the West to the port of New York. The bill was vigorously opposed by all the canal men on the ground that it would be the utter ruin of all the individual boat owners who now do business on the Erie canal. After many hearings and much debate the bill was smothered in committee. The company was finally incorporated in New Jersey, and if Mr. Wiman succeeds in raising sufficient money in England the revolution in the Erie canal business will begin before the close of the coming season.

The Moore and Tower, of the Great Lakes line, will probably lay up in Manitowoc. The Alva, Pasadena and Olympia will come down.

The "Soo" line has chartered the steamer Centurion for a cargo of flour, Gladstone to this port, at 75 cents, free. The Minneapolis, of the same line, will return here from Gladstone, but the others will not go out again after reaching their destination.

The steamer Rosedale, ashore at the head of the St. Lawrence, on Charity Shoal, is in a bad shape. The steamer's bottom is broken up, her deck and stanchions sprung, and her hull plates bent. Capt. Crangle does not think her back is broken, but he is not very sanguine of having the wrecked vessel raised and brought to port this year, while a winter on the shoal, hung as she now is on the center, will about finish her, no matter how well she has been built.

It is probable that the number of vessels to winter at upper lake ports will be much larger than usual, because of late shipments of coal. Several vessels have been chartered to Manitowoc and other Lake Michigan ports, with the understanding that their cargoes will be held for several weeks.

DETROIT.

Special Correspondence to The Marine Record.

A circular has been addressed to the stockholders of the Detroit & Cleveland Steam Navigation Co., which went out of existence December 8, as the charter of the company expired on that date. The company was immediately reorganized and the name of the new corporation is the Detroit & Cleveland Navigation Co., leaving out the word "steam."

Negotiations that have been under way for some time were brought to a close this week when John McNeal, grand president of the Ship Builders' and Boiler Makers' Union of America, and Wheeler & Co., arranged to make the great shipyard of the latter company a union yard. Mr. McNeal had been in the west side city for several days and did not leave until he had accomplished his object. He was at Bay City during the strike last season, and it was by his order that it was declared off. Directly afterward the yard became non-union. Forty car loads of steel have reached the yard for the Bessemer boats now under way at the Wheeler & Co. shipyard.

The steamer Kalkaska has been purchased by Chicago parties. The Kalkaska was built at St. Clair, Mich., by Simon Langell, in 1884; she measures 679 gross tons and has been steadily in the lumber trade for which business the Chicago firm probably requires her.

The steamer Monteagle is here with a loose wheel. The old man-of-war Yantic, which was presented by the Navy Department to the Michigan Naval Reserves for use as a training ship, arrived here Wednesday in tow of the tugs Bosobel and Balize. All the vessels in the harbor saluted her when she arrived, and crowds lined the bank and cheered as she passed. She was taken to Oades' shipyard where some repairs and general changes will be made.

Anent the report that the Western Transit line, of Buffalo, had closed a contract with the Detroit Dry-Dock Co. for a new 400-foot steel package freight boat to cost \$260,000, "the report is somewhat premature," said one of the dry-dock officials. "The Western line has been negotiating for some time with the dry-dock people, but up to date no contract has been signed. The Western line will hold a meeting some time this week and then the matter will be brought up." There is little doubt, however, that if the boat be built the Detroit Dry-Dock will build it, as the Western Transit managers have shown this by having the Detroit Dry-Dock Co. build for them the Boston, Hudson, Harlem, Mohawk, Albany and Syracuse, all of which have proved first-class boats in every respect.

CLEVELAND.

Special Correspondence to The Marine Record.

Two or three parties of lake-faring men will shortly start out for the Klondike, several will get together from the whaleback fleet of barges and after getting as far north as it is convenient, will await the spring opening.

A dispatch from Sandusky says that Capt. Edward Morey, of this port, master of the barge 101, was severely injured by falling into the hold of the vessel. He struck on his feet and sprained both of his legs very badly. The 101 will winter at Sandusky.

There are some whaleback barges holding grain cargoes at this port for the winter. They make good warehouses.

A. A. Schantz, general passenger agent of the D. & C. Navigation Co., has issued a unique card noting the close of navigation on their lines. It is a picture of a roll top desk being closed down over five little boats resting on the blotter. On the desk top is printed "Closing Up." As a matter of fact the boats have not discontinued their trips for the win-

ter. One is now running every other night subject to the weather.

Although a number of boats that were chartered ahead will not be ready to load until the end of the week, coal men are practically through chartering and cargoes are rather scarce. Several boats are on the market for Lake Michigan. The Milwaukee rate was cut to 50 cents on Wednesday. The steamer Queen City will load at Toledo Wednesday and she will be about the last boat to leave for Lake Superior, where she will winter, as she is owned by the Wolvin syndicate, of Duluth. Some boats will load for Michigan ports next week. A number of vessels have arranged to hold their cargoes at upper lake ports.

The steamer La Salle will have her repairs completed at the Ship Owners' dry-dock and be out by Saturday night. She has had a number of frames and shell-plates renewed.

At the Cleveland dry-dock the Fayette Brown was docked this week for repairs to stern bearings and some calking. The whaleback 201 will leave the dry-dock Friday, after receiving repairs to bottom or bilge damage. Other work is booked ahead so that the Cleveland Dry-Dock Co. are likely to be kept busy now for some time.

There are in all nine of the whaleback fleet in port here now, six of which are loaded with grain, and the entire fleet will probably winter here. They are as follows: John B. Trevor, Colgate Hoyt, and Nos. 107, 130, 131, 116, 129, 110 and 201.

Capt. Y. J. Stephens, of Alpena, made his last trip for the season, and laid up the Oscar T. Flint at this port, a steamer which he has sailed for the last four seasons. Capt Stephens has been in the same employ for the past fourteen years, and is not only a skilled shipmaster but is generally well liked as well afloat as ashore.

The launch of the Algonquin was quite a brilliant affair this week. The christening ceremony was performed by Miss May Childs, who is a daughter of Mrs. O. A. Childs, of Dorchester avenue, and a niece of Col. and Mrs. William Edwards. On the launching stand, were Mrs. O. A. Childs, Miss Cornelia Root, Mr. and Mrs. Luther Allen, Capt. and Mrs. D. A. Hall, Lieut. and Mrs. J. M. Moore, Mr. and Mrs. R. L. Ireland, Mrs. Waite, Mrs. Van Wagner, Commander Theodore F. Jewell, Mr. J. E. Jeffries, Capt. Russell Glover and Mr. Garrett Van Mater. Among the large crowd that witnessed the launch were a number of well known marine men. Mr. Luther Allen, ex-president of the Chamber of Commerce, secretary and treasurer of the Globe Iron Works Co., gave a luncheon for the launching party at the Union club after the launch.

Col. J. A. Smith, corps of engineers U. S. A., in charge of the river and harbor improvements in this district, disapproves of the proposed extension of the piers at Monroe harbor at a cost of \$626,750, which includes also the expense of dredging the channel from the lake to the city of Monroe to a depth of 14 feet. Col. Smith says the maintenance of the present piers, the canal revetment and lighthouse covers all the expenditure justified by the present or probable needs of navigation at that port.

There is a doubt regarding the outcome of the Lake Carriers' meeting on Wednesday next. The suggested step—changing the rules of the association so as to cover the question of fixing minimum freight rates—is a matter on which all do not agree.

Because of the delay in discharging her cargo of coal at Milwaukee it has been decided not to send the steamer S. S. Curry to Ft. William for wheat, but let her take a grain cargo from Chicago to Buffalo instead.

A special from Washington says: An understanding must soon be reached by the City of Cleveland and the Pennsylvania Railroad Company about land for widening the river, or the war department will bring condemnation proceedings. That is what Secretary Alger told Representative Burton. The congressman called on the secretary to see what was being done in the matter, and to see if the secretary fully understood the necessity for dispatch. Gen. Alger said he had reason to believe that the city and the railroad company would soon reach an amicable understanding, but if they do not District Attorney Dodge will be directed to bring a condemnation suit against the railroad company. The land in question is near the bend where the old river bed begins. There is no disposition on the part of the War Department to be arbitrary about the matter, but as Congress has authorized the work, and as it is delaying the whole scheme of widening the river, this question must soon be settled. Col. Smith has long had his plans ready and has been anxious to have operations begin.

Lieut. H. K. Hines, who will take charge of either the branch hydrographic office at the "Soo" or at Duluth, will come to Cleveland for a few preparatory lessons before assuming his new duties.

It is reported that the steamer J. J. Hill, which was built with a view to salt water trading, has been chartered for the Alaska-Klondike trade. She is 786 tons net, and classed for foreign voyages.

A dispatch from H. A. Barr, dock superintendent at Escanaba, would indicate that ore shipments from that port may continue until Saturday. Among the vessels still figuring on loading there are the Raleigh, Tokio, Santa Maria, Teutonia and Gawn.

FLOTSAM, JETSAM AND LAGAN.

Last year the "Soo" canal closed December 8.

Lake Carrier' shipping office at Milwaukee has been closed.

The large Biwabik, which sunk near Green Bay, after having been cut through by ice, has been floated. Three hundred tons of her cargo were lightered upon the barge Yonng.

The United States steamer Algonquin, building for the

revenue cutter service for use on the lakes, launched at the yard of the Globe Iron Works Co. on Wednesday afternoon at 2:30 o'clock, standard time, was christened by Miss May Childs, of Cleveland.

Three fine steel bull sternwheel steamboats have just been completed by the James Rees & Sons Co., of Pittsburg, for use on the rivers of South America. Two are for the government of the United States of Colombia, and will be the first boats to be used in the systematic improvement of the rivers of that country.

Capt. Adolph Frietsch, who sailed across the Atlantic in the small sloop Nina, will leave Milwaukee for Muskegon in a twelve-foot sailboat. He expects to make the trip in twenty hours with favorable winds.

The Thousand Island Steamboat Co. has purchased the steamer Shrewsbury. This is a first-class steamer, classing A1, built at Bath, Maine, in 1888, at a cost of \$85,000. She is larger and faster than any steamer now plying on the St. Lawrence and will prove a great addition to the celebrated "white squadron" Folger line.

Harbor No. 43, Masters and Pilots, met in the rooms, Marine building, Toledo, this week and transacted a good deal of business. Preparations were made for the annual ball of the harbor, which will be given in Pythian castle on December 15, 1897, by appointing committees. Three new members were elected, namely, Capt. Ott Moore, Sandusky; Capt. Schackford, of the steamer Wherle, and William Tehlinacher, of the steamer Ogontz.

The two sidewheel steel steamers built by the Bertram Engine Works, Toronto, for the Richelieu and Ontario Navigation Co., will be each 277 feet over all, 269 feet keel, 36 feet beam molded and 62 feet over guards, 14 feet deep. One of them will come out late next summer, but the other will not be built until next winter. They will have 140 staterooms each and will run between Toronto and Prescott. Scotch boilers and triple-expansion engines will supply the power.

On Saturday a dredge dug up at the mouth of the Manistigue river, where a ship is being constructed for the Ann Arbor car ferry steamer, two pieces of smokestack and part of the cabin of the Canadian steamer North Queen which sunk there as the result of a collision sixteen years ago. A portion of the corn cargo of the steamer was also brought to the surface in fairly good condition.

The Chicago & Northwestern railway people expect to ship 2,000,000 tons of ore from their docks at Ashland next season. Arrangements are nearly consummated for extending the shorter of the two docks 250 feet and raising it about 20 feet higher. This will make the two Northwestern docks practically the same length. Since the purchase of the Norrie and other mining properties by Carnegie it is a certainty that shipments will no longer wait for the markets and that shipments from the port of Ashland next year will nearly double.

The report comes from Ottawa that the steamers of the Ogdensburg Transportation Co., eight in number, will be placed on the route between Chicago, Milwaukee, Duluth and Parry Sound, Ont., next season. They are now running between Chicago, Duluth and Ogdensburg. This will mean the carriage of much of the wheat crop of the western states through Canadian channels to the seaboard.

December is proving a bad month for the underwriters. An examination of the steamer George W. Morley, which burned at Evanston, showed there was nothing worth saving. Even the machinery is not worth the salvage of getting it out of the water. A loss of not less than \$50,000 is estimated on the steamer Rosedale, ashore on Charity Shoals, Lake Ontario. The Masten is lost off Twin River Point.

WHALE AND WATERSPOUT.

Quite a story is told in the Pittsburg Dispatch about waterspouts, a dozen or two of which have been sighted on the lakes this season, and as a little nonsense may be taken aboard sometimes, we reprint the yarn:

"Cyclones, hurricanes and icebergs have sent many a good ship to her doom, and will send many more—but there's something to be dreaded worse." So spoke a veteran sea captain, from whom I was trying to draw out something interesting on the subject of storms.

"I can't imagine what it is," I said, though I had my guess.

"Well, it's a waterspout; and the mariner may thank God they are not to be met with every week. I know men who have sailed for 30 years without sighting one, but it has happened that they have come my way pretty often. I saw one on my first voyage as cabin boy, and it wasn't only four weeks ago that one came mighty nigh doing the business for this old bark. Man and boy, I've followed the sea for over 40 years, and the peril most to be feared is the one you are almost helpless to guard against. You want to hear some stories? After I've told the mate about getting up the new top-sail I'll spin you a few."

Ten minutes later we were ready and he began:

"Everybody knows that a waterspout is formed by a whirlwind passing along the surface of the water. On land it would suck up dust and grass and paper, and perhaps rip the roof off a house or barn.

"There are little waterspouts and big ones, according to the strength of the wind. I've counted 20 little ones playing around at once, and no great fear need be felt of them. It's

the big ones—the old chaps holding enough water to float a ship over a stone wall—and make your hair curl when they come sweeping down your way.

"In the China sea, 30 years ago, as the clipper ship Champion was sailing along one day in a moderate breeze, I was sent aloft on some job about the fore top-mast. I was working away when I happened to look into the northwest, and I beheld a curious sight. About three miles from the ship, which was headed the other way, was a patch of what looked to be black water. This patch was perhaps a quarter of a mile square, and it stood out on the green-white sea in strange contrast. It began to boil as I looked, and then the waters in that particular spot seemed to be racing 'round and 'round.

"A minute later the center of the patch began to rise, and the next thing was a waterspout. The water was sucked up as by a pump, and when thousands and thousands of barrels had been lifted the spout began to travel. The stem of it was about as big as a ship's mast, but it writhed and twisted about like a serpent. The spout did not come near us, but we were shaking with fear for a quarter of an hour."

"Suppose that a big waterspout should strike a ship—what then?" I asked.

"I can give you a plain answer to that," replied Capt. Griggs. "In 1878 I made a voyage from Liverpool to the Cape of Good Hope on the brig Steadfast. We had left St. Helena about 400 miles to the north of us, when one morning there came a dead calm. About two miles to the south of us lay a Russian merchantman—a big fellow with a crew of at least 30 men. Up to noon there wasn't air enough to flare a candle.

"Then came cat's-paws from every point of the compass, and after a while a small waterspout formed near the brig and traveled away to the east. We took alarm at that and got ready. It had just gone four bells (2 o'clock) when the man who had been sent aloft an hour before hailed the deck in great excitement, and then sliding down a backstay. A waterspout which had formed to the south of us was coming down towards the two ships.

"It was an ugly sight. It had drawn up so much water that its top was a black cloud a mile in circumference, and as it came along the sea under it was boiling and leaping as if a dozen great whales were at play. The Russian had a gun aboard and opened fire with a solid shot, hoping to hit the stem or break it by concussion. They tell me it has been done, but I beg to doubt it.

"He fired three shots while the spout was dancing about in an uncertain way; then a current of wind sent it fairly down upon him. We could hear the sailors shouting and see them running about, but all the ships on salt water could not have prevented what happened. Every one of us had his eyes on the spout when it struck the ship. There was a smash and a crash and a moment later only a few floating fragments remained of the big craft. Tens of thousands of barrels of water fell upon her from a height of half a mile, and she was literally torn to pieces. We lay a full mile away, and yet the fall of that great body of water upon the surface of the ocean kicked up such a sea that we had to hang on for dear life. The edge of the spout just hit us, and we got rain in sheets and bucketfuls. When a wave rolling in against a breakwater will overturn a block of stone weighing 15 to 20 tons, you get some slight idea of what might happen under the fall of a whole lake from the sky in a body."

I knew the captain had more in reserve, and patiently waited for him to fill his pipe and continue.

"I think the crew of the barkentine White Squall saw a more curious spectacle and had a closer shave from destruction than any other men sailing the deep. It was in the fall of 1869, and we were off the Keeling Islands and bound up the Bay of Bengal. At the beginning of the first dog watch in the forenoon (from 4 to 6 o'clock) we lost the breeze, which had been light all the forenoon. It wasn't what you might call waterspout weather, and yet I began to feel apprehensive and ordered the ship made ready. The men started in amazement when I gave the order to furl and clew down and doubly secure anything on deck. The sky was hard and blue and without a cloud as big as your hand, and as the hands went aloft I saw them winking at each other and guying me. Had another ship been near she would have taken it that I was about to come to anchor in 3,000 feet of water. I trusted to my instinct, however, and it was well that I did. Five bells had been struck when a big whale suddenly broke water about half a mile to the west of us, and after thrashing about for two or three minutes began to move around in a narrow circle with his jaws wide open. That he was feeding was plain to all, and all

had a good look at him. I had him under my glass and was wondering over a curious scar just back of his left eye, when I saw the water around him suddenly darken and begin to bubble and boil. Little jets leaped up here and there, as if from fountains, and at the end of a minute they all emerged into one big jet, which was the stem of a waterspout. This stem circled round and round, lifting up the surface of the sea and the men with their naked eyes could see the water being sucked upward and forming a curious cloud in the air above.

"There goes a waterspout, and its caught the whale," shouted half a dozen men in chorus, and so it proved. The whale might have escaped at first by diving, but perhaps he didn't realize his danger. At any rate he was sucked into the stem and lifted bodily until he stood on his head. Under the glass he appeared to be within 20 feet of me. He was whirled round and round, clashing his great jaws together and making gigantic efforts to escape; but while the spout couldn't lift his head above the surface it had such a 'tail-hold' on him that he couldn't get away.

"He was carried three times around a circle, and then the waterspout set off toward the east. We hoped to see it disappear, but it halted, circled twice around, and then came back to us. It held such a straight course for the barkentine that we were all dumb with terror, and when the stem was not over half a cable's length away something turned it so that it passed the stern by about 30 feet. It seemed as if we could reach out our hands and touch the whale. At about 500 feet from us the spout burst and the mass of water fell with such a crash as few men have ever heard. A few seconds later our decks were flooded 3 feet deep, and the craft rolling and pitching as if 40 typhoons had been blowing for 40 days. It was all of 20 minutes before the ocean settled down, and the only relic of the affair was a dead whale floating on the surface."

EASTERN FREIGHT REPORT.

The weekly freight report for New York, Philadelphia, Baltimore and other coast points, as furnished the RECORD by Messrs. Funch, Edye & Co., New York, is as follows:

As foreshadowed in our last report, the inquiry for tonnage, especially the pressing demand until quite recently noticable for prompt boats, has very materially diminished, and, at the moment, the offering of such vessels is in decided excess of the demand. The rate for medium sized steamers for prompt loading from Range is reduced to 4s., with recharter of boat to load at Baltimore or Virginia at 3s. 9d., and this figure is now top from Range for January, 3s. 6d. @ 3s. 7½d. for February, and no appreciable demand at the moment for March and later loading. Large vessels for picked ports are in comparatively better demand, and worth for December loading 3s. 6d. for January and February 3s. 1½d. @ 3s. 3d.—as to ports—berth freights ruling steady for regular boats during this month. The inquiry for cotton tonnage, both from the Gulf and from the Atlantic cotton ports, continues fairly active for December and early January, with but little inquiry beyond the latter month. Case oil business for the far East, of late somewhat handicapped by shortage of tins, bids fair to recover its usual activity ere very long, and we expect a resumption of timber shipments in the near future.

The movement of sail tonnage for the past week has again been rather light, and rates show no appreciable change. In case oil to the far East nothing has been done, partly on account of small offerings and partly on account of the difficulty of obtaining prompt delivery. This latter obstacle to business seems now to be in a fair way of being overcome, and we are looking for livelier trade in this line in the near future. Barrel oil freights to Europe are scarce and restricted to spot tonnage; rates in this line are rather weak at present.

General cargo freights to the colonies about hold their own, but very few new transactions can be reported, which equally refers to lumber from the Gulf to South America and naval stores fixtures.

ADMIRAL MAKAROF, of the Russian Navy, has invented a species of ice-plow capable of breaking through ice from 12 to even 20 inches thick. The experiments have proved so satisfactory that the government has given orders for the immediate construction of two vessels of 10,000 h. p. each, armed with these plows, by means of which it is expected to keep not only the river Neva, but also the various Muscovite ports open to navigation throughout the winter. The majority of Russia's ports and naval arsenals are ice-bound during more than four months of the year.

SUPERINDUCED MAGNETISM.

(COMMUNICATED.)

On application to the U. S. Navy Department some three or four years ago, I obtained copies of half a dozen deviation tables of compasses on board of vessels of the Navy, of which the following table is a rare specimen:

TABLE NO. 1.

Compass Course.	Dev.	Compass Course.	Dev.
N.....	- 6° 32'	N.....	- 6° 32'
NNW.....	-19 58	NNE.....	7 51
NW.....	-31 58	NE.....	18 43
WNW.....	-17 25	ENE.....	2 26
W.....	40 32	E.....	-30 47
WSW.....	35 59	ESE.....	-29 38
SW.....	25 58	SE.....	-21 32
SSW.....	13 10	SSE.....	- 8 55
S.....	0 06	S.....	0 06

This table refers to compass No. 100 unadjusted, with the vessel on the magnetic equator in 14° 55' S. latitude; and 36° 36' W. longitude.

By taking half the sum and half the difference of opposite courses, commencing with N. over E. we obtain respectively the quadrantal and semicircular deviation by observation as in table 2.

TABLE NO. 2.

Compass Course.	Quadrant Dev.	Semicircular Dev.
N.....	- 3° 13'	- 3° 19'
NNE.....	10 31	- 2 40
NE.....	22 21	- 3 38
ENE.....	19 13	-16 47
E.....	4 53	-35 40
ESE.....	-23 32	- 6 07
SE.....	-26 45	5 13
SSE.....	-14 27	5 32
S.....	- 3 13	3 19
SSW.....	10 31	2 40
SW.....	22 21	3 38
WSW.....	19 13	16 47
W.....	4 53	35 40
WNW.....	-23 32	6 07
NW.....	-26 45	- 5 13
NNW.....	-14 27	- 5 32

From the eight principal compass points we find after a little reduction the force from horizontal induction = 0.4662; its starboard angle = -3° 40' and the abscissa A of the generating circle = -0.0292. With these constants, column 2 in table 3, representing the regular quadrantal deviation, is computed, and comparison made with the observed values.

TABLE NO. 3.—QUADRANTAL DEVIATION.

I	2	3	4	5	6
Comp. Course.	Computed Dev.	Observed Dev.	Diff. of 2 and 3.	Quadr. Total.	Diff. of 5 and 3.
N.....	- 6° 05'	- 3° 13'	2° 52'	- 6° 05'	2° 52'
NNE.....	23 19	10 31	-12 48	13 24	-2 53
NE.....	24 11	22 21	- 1 50	24 11	-1 50
ENE.....	13 44	19 13	5 29	20 02	-0 49
E.....	- 0 03	4 53	4 56	- 0 03	4 56
ESE.....	-14 06	-23 32	- 9 26	-19 00	-4 32
SE.....	-25 42	-26 45	- 1 03	-25 42	-1 03
SSE.....	-28 43	-14 27	14 16	-17 24	3 15

The differences in column 4, points to the presence of an octantal deviation, being zero near the principal compass points and having its maxima at the intermediate points, the larger differences on the principal points notwithstanding, being alternatively negative and positive, representing the action of the permanent pole of the vessel upon the pole from horizontal induction. The relation of the regular quadrantal to the octantal is nearly as one to one-half the permanent force, multiplied by the sine of four times the compass course the vessel is headed on. The force from permanent magnetism being 0.8550 column 5 is obtained; column 6 showing the differences between columns 5 and 3, which differences are very likely due to imperfect observations, the soft iron requiring a long time for changing its magnetism as the vessel swings around, especially when such tremendous forces are concerned as in the present instance.

The semicircular deviation, as shown by table 2, is but small and nearly constant from NE. to NW. and from SE. to SW. but at the courses East and West deviations are very large. It is easily seen that the deviations do not change in conformity with well established laws. From the four principal points we obtain the force of permanent magnetism

= 0.8550; its starboard angle = 182° 4'; with these and the constants mentioned above, column 2 of the following table is computed, representing the regular semicircular deviation.

TABLE NO. 4.—SEMICIRCULAR DEVIATION.

1	2	3	4	5	6
Compass Course.	Computed Dev.	Observed Dev.	Diff. of 3 and 2.	Computed Total.	Diff. of 5 and 3.
N.....	- 3° 17'	- 3° 19'	- 0° 02'	- 3° 30'	0° 11'
NNE.....	-30 07	- 2 40	27 27	-12 49	10 29
NE.....	-35 59	- 3 38	32 21	- 4 17	0 39
ENE.....	-36 29	-16 47	19 42	-12 16	- 4 31
E.....	-35 40	-35 40	0 00	-35 37	- 0 03
ESE.....	-34 00	- 6 07	27 53	-10 29	4 22
SE.....	-30 42	5 13	35 55	- 0 18	5 31
SSE.....	-22 18	5 32	27 50	- 0 23	5 55

From column 4 of this table we find that the regular semicircular deviation is affected by a large quadrantal deviation, being positive in the first and second quadrant and negative in the third and fourth quadrant. The relations of both kinds of deviations is nearly as one-half to the force from horizontal induction multiplied by the sine of twice the compass course plus starboard angle of horizontal force; plus the abscissa of the generating circle. Column 5, of Table 4, contains the computed values of the total semicircular deviation thus obtained. Column 6 shows some large remaining differences, probably due to imperfect observations, to which also must be attributed the larger differences between the computed deviations total and the observed ones, in the following table:

TABLE NO. 5.—DEVIATIONS TOTAL.

1	2	3	4	5	6
Compass Course.	Computed Dev.			Observed Dev. Total.	Diff. of 4 and 5.
	Quadr.	Semicircle.	Total.		
N.....	- 6° 05'	- 3° 30'	- 9° 35'	- 6° 32'	3° 03'
NNE.....	13 24	-12 49	0 35	7 51	7 16
NE.....	24 11	- 4 17	19 54	18 43	- 1 11
ENE.....	20 02	-12 16	7 46	2 26	- 5 20
E.....	- 0 03	-35 37	-35 40	-30 47	4 53
ESE.....	-19 00	-10 29	-29 29	-29 38	- 0 09
SE.....	-25 42	0 18	-26 00	-21 32	4 28
SSE.....	-17 42	0 23	-18 05	- 8 55	9 10
S.....	- 6 05	3 30	- 2 35	0 06	2 41
SSW.....	13 24	12 49	26 13	13 10	-13 03
SW.....	24 11	4 17	28 28	25 58	- 2 30
WSW.....	20 02	12 16	32 18	35 59	3 41
W.....	- 0 03	35 37	35 34	40 32	4 58
WNW.....	-19 00	10 29	- 8 31	-17 25	- 8 54
NW.....	-25 42	0 18	-25 24	-31 58	- 6 34
NNW.....	-17 42	0 23	-17 19	-19 58	- 2 39

As a surprise, compass No. 100, compensated for semicircular deviation only, in 33° 4' N. Lat. and 70° 47' W. Long. shows the following deviations:

TABLE NO. 6.—SEMICIRCULAR DEVIATION COMPENSATED.

Compass Course.	Deviation Left.		
	Total.	Quadr.	Semicircular.
N.....	-7° 23'	-0° 08'	-7° 16'
NE.....	7 30	6 41	0 50
E.....	0 50	2 20	-1 50
SE.....	4 49	-0 44	5 33
S.....	7 08	-0 08	7 16
SW.....	5 51	6 41	-0 50
W.....	3 50	2 20	1 50
NW.....	-6 17	-0 44	-5 33

From which we see that the quadrantal deviation is reduced to 3° 43' = 0.0649, and that the semicircular deviation could have been made nearly zero by slightly changing the starboard angle of the correcting magnet. The fact that by compensating only the semicircular deviation, a large quadrantal deviation has disappeared, too, and consequently has also been compensated, proves the permanent pole to be the originator of the large quadrantal deviation previously to adjusting. The original quadrantal force being 0.0649 it is increased 7.2 times in amount by the action of the permanent ship's pole. Although the position of this pole in relation to the horizontal soft iron of the vessel is not altered as the vessel swings round the effects of the permanent pole upon the induced pole and vice versa vary in one instance as the sine of twice the compass course the vessel is headed on, and in the other instance as the sine of four times the compass course; and therefore in both cases following some law dictated by the earth's magnetic force, the horizontal induction from which, prevailing over the induction from perma-

nent magnetism, rendering induction from the latter subordinate to induction from the former.

As the maximum moment of the permanent force equals

$$\frac{0.8550}{1 \text{ plus } 0.4662} = 0.5833$$

on the magnetic equator, the moment of the earth's horizontal force counteracting it also equals 0.5833; and as this force on the magnetic equator equals 1.7, the moment of the permanent force in latitudes where the earth's horizontal force is 1 = 0.5833 by 1.7 = 0.9916, representing the sine of a deviation of 82° 32'. From which follows, that under ordinary circumstances the compass is nearly paralyzed and does not point at all. This is so much more evident, as in our latitudes vertical induction in soft iron generally equals one-third the permanent force, that is, one-fourth of the force total producing semicircular deviation. Therefore, three-fourths of the above moment, or rather three-fourths of unity, will suffice to paralyze the compass, that is, when the horizontal force of the earth is less than 1.33.

By means of the preceding tables some very interesting diagrams may be constructed.

The superinduction consists in an increased quadrantal deviation by the permanent pole, and an octantal deviation besides, causing a diminution of the regular semicircular deviation on all points, except the four cardinal points.

JOHN MAURICE.

Chicago, Nov. 15, 1897.

BUFFALO GRAIN TRADE.

The present grain season now practically closed has been one of the most active in the history of the port of Buffalo. Receipts of grain by lake have been the largest on record, reaching the aggregate total of 183,000,000 bushels, comparing with 154,000,000 bushels in 1896 and 105,500,000 bushels in 1895. Flour receipts aggregated 11,242,113 barrels, about 1,500,000 barrels more than in 1894, when the previous high record was made. The grain receipts for the season include 52,000,000 bushels of wheat, 54,000,000 bushels of corn, 58,000,000 bushels of oats, 12,275,000 bushels of barley, and about 7,000,000 bushels of rye.

There has been a heavy rush of grain this week, including a fleet of boats which for individual and aggregate carrying capacity have never been equaled on fresh water, ten cargoes aggregating about 2,000,000 bushels.

The canal season has closed and the railroads will, therefore, handle the grain now here. The rail lines have, in fact, carried most of the grain this year, the total rail shipments for the first eleven months of the present year having been about 148,000,000 bushels, comparing with 108,000,000 bushels for the same period of 1896. Canal shipments, on the other hand, were only about 24,000,000 bushels comparing with 36,000,000 bushels in 1896. The boatmen are much disappointed over the season, which was looked forward to with much hope at the commencement.

Active work will be begun at once by the contractors to complete the improvements under the \$9,000,000 act. Very few boats will be allowed to winter in the canal itself, as the superintendent of public works thinks they would interfere with the contract work. It is understood that in view of the vast amount of money spent upon the canals, and the falling off of traffic, that all of the state officers will recommend the passage of a bill extending the amount of capital for canal navigation companies from \$50,000 to \$500,000.

CREDIT TO A LIFE-SAVING CREW.

The following communication has been forwarded to General Superintendent S. I. Kimball, U. S. L. S. S., Washington, D. C. In addition Capt. Harvey says: "I believe the service rendered by the noble men composing our life-saving crews on the lakes can not be too highly commended." A sentiment which the majority of lakefaring men are pleased to endorse:

CHICAGO, ILL., Dec. 7, 1897.

Sumner I. Kimball, General Superintendent Life-Saving Service, Washington, D. C.

DEAR SIR:—My vessel, the schooner J. M. Harvey, with a \$2,000 cargo of general merchandise, struck the bank in Bailey's Harbor, Wis., and it was the means of losing my rudder, on the morning of November the 21st. The sea was very rough, with a strong gale blowing from the SE. In fact some eleven large vessels had run into the harbor for shelter. If it had not been for Capt. Peter Olsen, keeper of the station, and his gallant life-saving crew, I would most assuredly have been beached. I can not express my sincere thanks sufficient for their kind assistance and timely aid.

Very respectfully,

(Signed.)

J. HARVEY,
Captain Schooner J. M. Harvey.

U. S. MERCHANT MARINE DATA.

From the annual report of the Hon. Eugene T. Chamberlain, Commissioner of Navigation, to the Secretary of the Treasury it is now learned that the total construction for the year was 891 vessels, of 232,233 gross tons, is the largest annual output since the fiscal year ended June 30, 1891, when it reached 1,384 vessels, of 369,302 tons. The year of our greatest construction was 1855, when we built 2,027 vessels, of 583,450 tons.

The Great Lakes region, for the first time in our history, has built more tonnage than all the rest of the country—129 vessels, of 116,937 tons, compared with 771 vessels, of only 115,296 tons, for the rest of the United States.

The square-rigged sailing vessel has virtually ceased to be a product of American shipyards. We built, however, 64,300 tons of sailing vessels during the fiscal year, compared with the British output, according to Lloyds, of 42,802 tons for the calendar year 1896. No ships or barks were built in the United States during the past fiscal year, and only one barkentine. By special act Congress admitted one foreign-built bark to registry. In 1855 we built 507 square-rigged vessels.

The total documented tonnage on June 30, 1897, (4,769,020 tons), is the largest for 21 years, except 1893, when it was 4,825,071 tons. Our largest documented tonnage was 5,539,812 tons, on June 30, 1861. Considering the speed and number of trips of steam vessels compared with sailing vessels, our merchant fleet has never before been so efficient as this year. The documented steam tonnage amounts to 2,358,558 tons; sail tonnage, included documented barges and canal boats, 2,410,462 tons. Construction thus far, while small in amount, indicates that at the end of the current fiscal year the steam tonnage, for the first time in our history, will exceed the combined tonnage of sailing vessels, barges and canal boats. In 1861 sailing tonnage amounted to 4,662,609 tons, steam to 877,204 tons. Conclusions concerning aggregate tonnage at any given time must be qualified by a consideration of all the facts. Thus by act of Congress in 1874 about 600,000 tons of canal boats and barges were exempted from documents, and are no longer carried on the government's books. The great decrease during the fiscal year 1875-1876 is attributed chiefly to this cause. In 1818 about 200,000 tons of vessels destroyed or lost during the war of 1812 were stricken from the lists, on which they had been carried for several years. Last year by the earnest searches of collectors of customs many vessels abandoned for years were stricken from the list. The tonnage thus dropped amounted to 51,251 tons, compared with an annual average of 28,820 tons for the previous seven years.

The tonnage registered for foreign trade, excluding whaling vessels, amounted to 792,845 gross tons, the lowest since 1841. The greatest was 2,496,894 tons in 1861. One St. Louis, of nearly 12,000 tons, now is equal, however, annually, as a carrier to over 20 of our ships before the war.

The whale fisheries employ 12,714 tons, compared with the maximum of 198,594 tons in 1858.

The American tonnage sold to foreigners amounted to 8,243 tons, the smallest amount since 1844. The largest amount sold to foreigners in a year of peace was 77,054 tons, in 1874. During the four years preceding the close of the civil war the American tonnage sold to foreigners amounted to 774,652 tons.

We are almost exclusively indebted to the growth of shipbuilding on the Great Lakes for our increase in tonnage during the past ten years.

The discovery and utilization of the mineral wealth of the Great Lakes region, supplemented by timely appropriations by Congress for the improvement of navigation, have brought about a maritime growth in that portion of our country which is without parallel in maritime history. Our lake fleet alone is greater than that of any foreign nation except Great Britain or Germany.

While our salt-water tonnage, including that engaged in both the foreign and coasting trade, is less in volume than it was 20 years ago, it has been rendered much more efficient in carrying power by the substitution of steam for sail. The steam tonnage for the periods named was:

On June 30, 1897, the merchant marine of the United States, including all kinds of documented shipping, comprised 22,633 vessels, of 4,769,020 gross tons. On June 30, 1896, it comprised 22,908 vessels of 4,703,880 gross tons.

REDUCED THE FINE.

Assistant Secretary Spaulding has reduced to \$25 a fine of \$200 levied upon the steamer Swallow, of Detroit, for failing to answer the signal of the tugboat Haynes and for running

at too high a rate of speed in the St. Clair river. The mate of the Swallow, who files the application for a remission of the penalty, admits that he did not answer the Haynes' crossing signal, as in his opinion it was not safe to follow the course indicated by the signal, but General Spaulding, while reducing the fine to a nominal sum, says: "The department is advised that this was a plain violation of the law, the Swallow neither answering the Haynes' signal nor slackening its speed, but continuing down the river so close to shore that the other vessel was forced to change its course to prevent a collision."

ST. MARY'S FALLS CANAL.

Report of freight and passenger traffic to and from Lake Superior for the month of November, 1897, including statistics of the United States and Canadian Canals at Sault Ste. Marie, Mich., and Ontario.

EAST BOUND.				
ITEMS.	DESIGNATION.	U. S. Canal.	Canadian Canal.	Total.
Copper.....	Net Tons	10,555	503	11,058
Grain.....	Bushels	2,703,217	533,969	3,237,186
Building Stone.....	Net Tons	.....	.....	.....
Flour.....	Barrels	1,279,726	141,770	1,421,496
Iron Ore.....	Net Tons	510,222	180,402	690,624
Iron, Pig.....	Net Tons	2,269	.....	2,269
Lumber.....	M. Ft. B. M.	81,475	2,885	84,360
Silver Ore.....	Net Tons	.....	.....	.....
Wheat.....	Bushels	5,947,012	2,616,827	8,563,839
Unclassed Freight.....	Net Tons	7,604	2,295	9,899
Passengers.....	Number	262	175	437

WEST BOUND.				
ITEMS.	DESIGNATION.	U. S. Canal.	Canadian Canal.	Total.
Coal (Hard).....	Net Tons	72,725	14,200	86,925
Coal (Soft).....	Net Tons	560,536	87,714	648,250
Flour.....	Barrels	.....	.....	.....
Grain.....	Bushels	19,400	.....	19,400
Manufactured Iron.....	Net Tons	15,034	1,590	16,624
Salt.....	Barrels	63,852	11,200	75,052
Unclassed Freight.....	Net Tons	55,648	3,940	59,588
Passengers.....	Number	103	193	296

East Bound Freight, net tons..... 1,330,473
West Bound Freight, net tons..... 825,597

Total..... 2,156,070

Craft—United States..... 1,214
Canadian..... 293

Total..... 1,507

Registered Tonnage—United States..... 1,260,718
Canadian..... 289,402

Total..... 1,550,120

MILWAUKEE COMMERCE.

The last 30 days of navigation for this year has been one of the busiest on the lakes and this, too, after a dull summer when low freights and light chartering prevailed. The coal miners' strike had, of course, much to do with the dullness in charters, but just as soon as that trouble was settled briskness was the order of the day. There had been some anxiety expressed at Milwaukee relative to a considerable coal shortage, but it simply piled into that port during the last 40 days. The total coal arrivals from September 26 to November 27 aggregated 606,528 tons, and the shipments 246,179 tons, leaving 360,349 tons for local consumption in addition to what was in the yards at the close of September, so that it is now considered that there is a fairly good winter's supply on hand. A summary of the marine business from September 26 to November 27 is as follows:

	Receipts.	Shipments.
Coal, tons.....	606,528	246,179
Lumber, feet.....	48,434,000	3,410,000
Shingles, number.....	914,000	1,000,000
Lath, feet.....	3,430,000	10,000
Wood, cords.....	16,549	.....
Salt, bbls.....	135,713	118,326
Iron ore, tons.....	43,069	.....
Pig iron, tons.....	10,509	20,427
Feed, tons.....	8,940	36,721
Tobacco, lbs.....	969,070	286,933

The movement in flour and grain for Lake Erie has been up to the average of former years. The shipments of malt and flour will continue all winter on the lake lines.

A POPULAR NEW YORK ENGINEER-SURVEYOR.

The subject of this brief sketch is unusually averse, through innate modesty we presume, to seeing his name in public prints. However, the American Shipbuilder, New York, favors us with the following particulars of Mr. Stratton's career:

"One of the best known and highly respected mechanical engineers, whose business brings him in contact with steamship owners, marine engineers and shipbuilders, is E. Platt Stratton, who was born at College Point, Queens Co., N. Y., of ancestors who have been prominently identified with the settlement and history of Long Island since the year 1648, his parental ancestor having been one of the original settlers who purchased from the Indians the land which now comprises the town of East Hampton, Suffolk Co., N. Y. He was educated at the Flushing Institute, Flushing, L. I., and Walnut Hill Academy, Geneva, N. Y., and showed an early aptitude for mechanical work, having constructed his first sail boat when only fourteen years of age. Following his natural inclinations at the age of sixteen he entered upon his apprenticeship with Hon. Geo. W. Quintard, who was then proprietor of the Morgan Iron Works, of this city, and served four years under Miers Coryell, who was then superintendent, and about two years under the superintendence of the late Edward Farron and up to the time when this establishment was purchased by the late John Roach. He then entered the employ of the New York Mail S. S. Co., under the late C. K. & W. R. Garretson and subsequently became chief engineer of the New York & West India S. S. Co. About this time he was tendered and accepted the appointment of inspector of steam vessels for the port of New York and served the government in this, and in the capacity of supervising inspector of steam vessels, for about nine years. He subsequently became interested, and was for a considerable time, with the Babcock & Wilcox Co. of this city, which company was then beginning to develop their first forms of water tubular boilers for marine purposes. It was about this time that he patented and placed on the market the Stratton Separator, a device for extracting water from steam, which is now recognized the world over as the most efficient apparatus of its kind that has ever been produced. He disposed of his interest in the separator business to the Goubert Mfg. Co., of New York, some years ago, to become the chief engineer surveyor of the "Record of American and Foreign Shipping," under the requirements of which register of shipping a large percentage of all the sea-going commerce of this country is constructed or classified. Mr. Stratton is also the consulting engineer to the Board of Marine Underwriters of New York and a leading expert in all matters relating to marine engineering and naval architecture, he being one of the Council of the Society of Naval Architects and Marine Engineers of this country, a member of the Institution of Naval Architects of Great Britain and of the American Society of Mechanical Engineers, and there are few gentlemen of the engineering profession who are more universally and favorably known than the subject of this sketch."

A PLUCKY RESCUE.

The rescue of a lumber shover last Sunday at Duluth entitles Capt. William Packer, master of the Cleveland-owned schooner B. L. Pennington to the government life-saving medal.

It appears that a dock hand named William Barnes fell off the dock a distance of about 25 feet and when he came to the surface tried to clutch at the pieces of floating ice but as he was a heavy man, weighing 250 pounds, was in great danger of drowning. Capt. Packer witnessing the accident immediately jumped overboard and although weighted down with his overcoat succeeded in reaching the drowning lumber shover. The latter was absolutely helpless by this time. With a few powerful strokes the life-saver reached a pile in the face of the dock and succeeded in assisting Barnes to put his arms around it, where they almost immediately froze stiff to the wood.

A rope and a ladder were procured and Capt. Packer succeeded in getting the rope about the now almost inanimate form of Barnes. The ladder was shoved down to Capt. Packer, who climbed slowly up the rungs while strong hands held it at the top. At the same time other hands were pulling up the form of Barnes, for he was too far gone from the effects of the cold to assist himself.

Capt. Packer, as he slowly climbed the ladder, steadied the form of Barnes and prevented it from striking face toward the rough icy side of the boat. In ten minutes after the captain and his rescued lumber shover were on deck the former had reappeared in a dry suit of clothes, remarking that he felt none the worse for his icy bath.



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CLEVELAND, O., DECEMBER 9, 1897.

CONGRESS is again in session, and it is to be hoped that the river and harbor bill will meet with smooth sailing, and that the lakes will secure due consideration at the hands of our legislators.

THE annual report upon the improvement of rivers and harbors on Lake Superior, in charge of Major Clinton B. Sears, Corps of Engineers, U. S. A., has just been issued, giving a full and complete description, with illustrations, of the principal work carried on in the district.

THE RECORD has received a copy of the December North Atlantic Pilot Chart, issued by the Hydrographic Office, Navy Department, Washington, D. C. This publication has now become invaluable to Atlantic navigators and travelers, and we look forward to the time when similar charts can be issued for the lakes, certainly the Hydrographic Department, U. S. N., would render a great service to the entire lake commerce by publishing such a delineation at regular intervals during the season of navigation.

WE have received this week a copy of the annual report of the Bureau of Navigation. It comprises 350 pages, including statistical tables. Commissioner of Navigation Hon. E. T. Chamberlain shows that as the result of administrative changes and legislation brought about by the bureau during the last four years an annual continuing gain to the government of \$92,000 has been effected, and a saving in the burdens on shipowners of \$81,000. The annual appropriation for the bureau is less than \$27,000.

THE naval board appointed to investigate the cost of a government armor plant has made its report to Secretary Long and it will not be regarded as favorable to the project. The cost of a plant suitable for the production of 6,000 tons annually is placed at \$3,750,000, and it is believed to be impossible for the government to make its own armor at the limit of price fixed by Congress for the compensation of the existing armor concerns. It will be remembered that these companies refused to make contracts at the price named, so that Congress must now establish a plant of its own or raise the price to be paid. This report must be accepted as evidence that the establishment of a government armor plant would hardly be justified as a financial experiment. Various sites have been visited but no particular one is recommended. Statutory authority for the building of this armor factory has already been given and it is stated that Secretary Long will soon advertise for proposals. It is still within the power of Congress to return to the old system of buying armor.

"500" CANAL REPORT.

The report of the commerce passing the American and Canadian St. Mary's Falls canals during November, shows a large increase over the corresponding month last year in both registered and freight tonnage. The registered tonnage last month amounted to 1,550,120. In November, 1896, it was 1,354,458, an increase for this year of 195,662. The amount of cargo carried shows a phenomenal increase over last season, it being 2,156,070 tons, an increase in comparison with the same month in 1896 of 598,158 tons. The largest items of traffic were grain, iron ore and flour. Of wheat, 8,563,839 bushels were carried through; grain other than wheat, 3,237,186 bushels; iron ore, 618,622 tons; flour, 1,421,496 barrels. The total number of passages through the American canal was 1,214, and through the Canadian canal, 293, or 1,507 in all. There were 664 lockages at the American and 183 at the Canadian canal. The passengers going through numbered 733.

The old lock was closed for the season on Thursday and was pumped out. The date of closing the Poe lock is not definitely known, but it will in all probability be some time later this week, especially if the present cold weather continues. There are a number of craft yet on Lake Superior, and all of them are hustling to get down before they are frozen in for the winter. The canal officials are anxious to close the canal in order to begin work on the new swinging guard gates that will replace the present movable dam. Just as soon as it becomes apparent that the Canadian canal can take care of the remaining traffic expeditiously, the new lock will no doubt be placed in shape for winter. Even last week it was difficult to keep the lock in operation on account of the ice. The gates were opened and closed every two hours to keep the ice moving.

A. A. PARKER, a prominent member of the Lake Carriers' Association, is in favor of the adopting by the association a minimum rate at which coarse freights may be carried. It is understood that a resolution embodying this idea will be presented at the next meeting of the association. Mr. Parker is of the opinion that it will be adopted. It is believed that shippers would prefer holding a uniform rate of some reasonable nature that could be depended on for the season. It is believed that if the vesselowners make a minimum rate the sales agents will encourage it rather than discourage it, providing the action is taken before the agents have made sales. It is proposed to extend the minimum rate principle to coal, ore, lumber and grain. It is proposed to ask for a rate that will enable the vesselmen to operate their boats at a reasonable profit instead of at no profit or at actual loss. The Lake Carriers' Association controls nine-tenths of the lake fleet and therefore could make such terms as it sees fit, and enforce them, providing the members would hang together.

ON the whole it has been a bad season for the vesselowners, in fact one of the worst in the history of the lake marine and there is nothing of an encouraging nature for the owners of vessel property of the older and smaller class to look forward to. In previous years of small profits or no profits at all, vesselowners laid up their boats with a feeling of security for the future. They knew that with a resumption of business they would be able to make enough money to balance their losses. But that was before the key to the lake freight situation—iron ore—passed in the hands of a few, of which Rockefeller and Minnesota Iron interests are examples.

IF shipbuilding prices hold moderate there is likely to be a few more contracts placed for late delivery next season, although the yards are pretty well filled the keels of several more large steamers could be laid, and no doubt contracts signed for a fairly early delivery next spring or rather summer.

LAKE FREIGHTS.

With the closing week of navigation lake freights have not taken that upward tendency that was so generally expected on last cargoes, especially when it is considered that ore is still being loaded at Escanaba and the last cargoes bound down from Lake Superior.

Chicago grain rates are slow at 2½ cents on corn to Buffalo, with little chance of a raise as season insurance expires this week, and a heavier rate is sure to be named later for anything loading after noon on Friday. Buffalo coal charters to Chicago remain at 60 cents, while from 50 cents to 70 cents has been paid this week on bituminous from Ohio

ports to various ports on Lake Michigan, Manitowoc, Wis., taking a large number of the charters, as there is grain there to bring down at Chicago rates, providing the vessels can get good dispatch.

TO DEEPEN CHICAGO RIVER.

The decision of the river improvement committee at the conference to memorialize Congress to establish a depth of 21 feet in the Chicago river and also determining that in the lowering of the tunnels a depth of 26 feet should be assumed was in accordance with present conditions and future contingencies. Twenty-one feet is the standard depth of harbor established by the government and Congress, and as at present 20 feet is the extreme draft of vessels that can get over the Limekiln Crossing at the mouth of the Detroit river, a depth of 21 feet in the Chicago harbor is all that is necessary. At the same time, with the growing commerce of the lakes it is merely a question of time before the government will have to deepen the channel of the Detroit river and with that change will come also a necessity for further deepening of the Chicago river to 26 feet. The tunnels, therefore, ought to conform to this not remote possibility.

In the matter of change of dockage involved by the proposed deepening of the river private owners would gladly incur the additional expense for the increased value to their property that would come with the deepening of the river, as 80 per cent. of the owners of dock property belong to the River Improvement Association, and that these were all willing to do the work at their own expense for the benefit of a deeper channel.

As there is a practical agreement among the advocates of river improvement as to what shall be urged upon Congress in the matter of harbor improvement, the committee, headed by Mayor Harrison, will doubtless be able to present a strong case in its memorial, which should be supported by every member of the state delegation in Congress.

A NEW GUNBOAT FOR THE LAKES.

Senator McMillan has made the first move towards replacing the old United States steamer Michigan with a modern gunboat. A bill has been introduced by him providing that the president be authorized to have constructed one gunboat on the Great Lakes or their connecting waters at a cost of not more than \$230,000, exclusive of armament. The act specifies that the new boat is to replace the Michigan, and that no premiums are to be offered the contractors. It is to be constructed under the general provisions of the act of August, 1886, providing for the increase of the naval establishment, but its engines, boilers, machinery and all its parts shall be of domestic manufacture.

Senator McMillan had a conference with Assistant Secretary Roosevelt recently, when he said the replacing of the old and practically useless hulk known as a war vessel, with a modern fighting machine should not be longer delayed. To this proposition the Assistant Secretary agreed and offered any assistance in his power.

The bill introduced will go to the committee on naval affairs, of which Senator McMillan is a member. From there it will go to the naval department board, after which it will be referred back to the Senate naval committee with such recommendations as may be decided upon. It will then go to the Senate for passage.

The new gunboat will probably be begun next summer, and as the bill provides that all work must be done on the Great Lakes, the shipyards will have a chance to bid on naval tonnage.

ICE CHART OF THE LAKES.

The Hydrographic Office has just issued a chart showing the average times of the closing of navigation at places on the lakes with the mean departure from the average of the yearly dates of the commencement of the ice seasons compiled from the report of the United States Deep-Water-Ways Commission of 1896. Opposite the location of each place, with reference to which statistics have been collected, the average of the dates at which navigation has closed in past years is printed in red ink. This is followed in parenthesis by the mean of the differences in days between the average and the yearly times of closing.

Besides the foregoing all of the usual data contained in the Pilot Chart is given, every light, port, curves of variation, railroad lines along or parallel to the lake shore, and in fact everything contained in a general chart, except soundings, while for typographical work the chart is simply perfection, printed on heavy tinted paper and sold at the nominal cost of fifty cents. A copy of this chart can be ordered from or through the RECORD office.

LOSSES AND CASUALTIES OF THE WEEK.

The steamer Egyptian, bound from Cleveland to Milwaukee with a cargo of coal, burned to the water's edge in Lake Huron last Wednesday night, off Sturgeon Point.

The fire was discovered by the Sturgeon Point life-saving crew about 8 o'clock, and they started at once to the rescue. On the way to the steamer the life-saving crew passed a steamer which had taken the Egyptian's crew off, but the life-savers continued on their way with the hope of being able to save the burning hull.

The Egyptian was owned by Nelson S. Whipple, of Detroit. She was of 1,026 net tons and was 232 feet long, built in 1873. The crew were taken off by the Sir William Fairbairn and landed at Detroit.

On Sunday night the steamer George W. Morley caught fire on Lake Michigan and was beached at Evanston. She was bound from Milwaukee to Chicago, light. The fire started in the after end of the ship, near the shaft alley. It blazed up too quick for the engineer to put it out, and before he could get the fire pumps started the flames drove him on deck. The firemen were kept at their posts until the steamer struck the beach.

The fire was discovered when the boat was seven miles off shore under full steam and with a consort in tow, but it was not until her stem was run into the sand and raised high out of the water that the blaze burst through the upper works. The entire crew of twelve men was safely landed in the ship's yawls, and stood upon the beach while the boat burned so near that the heat could be felt, and the spectators were driven back from the shore line.

The George W. Morley was owned by Hawgood & Avery, of Cleveland, built in 1888 at West Bay City, Mich.; gross tonnage, 1,045; length, 193 feet; beam, 34 feet, and depth, 21 feet; rated A1*; engines were steple-compound, 24, 46 by 36, and she had one Scotch-type boiler; insured by Mac Donald & Co., of Chicago, and other agents for \$50,000, valued in Inland Lloyd's Register for insurance purposes at \$60,000.

The schooner J. G. Masten is also a total loss ashore at Twin River Point, Lake Michigan; built in 1867; gross tonnage, 620; carried but little insurance.

The Canadian steamer Rosedale, ashore on Charity Shoal, head of St. Lawrence river, it is thought will be a constructive total loss, if not an actual one. It is thought that the steamer is broken in two, as she rests entirely on a rock amidships. With good weather the steamer may be released this fall. The hull insurance was taken by Johnson & Higgins, of Buffalo, and is distributed in equal shares between Smith, Davis & Co., C. A. MacDonald, the Western Insurance Co., and the British Insurance Co. The total amount of the policies amount to \$100,000, and the steamer was valued at \$110,000. The wheat cargo is insured in New York for \$65,000, and the freight insurance is placed with the Western Insurance Co., of Toronto, for \$4,000. There is supposed to be 25,000 bushels of dry grain in her.

Several other minor casualties, including ice damage, but the foregoing are the heaviest.

The tonnage that has disappeared so far from the lakes this season will not be missed, the vessels being of a type that has deteriorated greatly in value since the construction of the modern steel ship.

Of the eleven boats recorded as complete losses, the steamer Florida foundered in collision with the steamer George W. Roby, was the most important as regards pecuniary loss, her valuation having been somewhere near \$100,000. The steamer Morley was only nine years old, and the steamer Florida only seven years old. The other nine boats were all the way from 19 to 34 years in service, and had valuations ranging from \$30,000 to \$9,000. Eight of the 11 disasters at least were due to bad weather.

ANOTHER OLD-TIMER GONE.

Capt. Robert Kyle, one of the best known retired lake captains in the country, died at Rogers Park, Chicago, Monday night. He was seventy-four years old, and had lived for fifty-six years upon the tract of land that was the scene of his demise. Fifty years ago the captain was reported to have died in Sheboygan and his obituary appeared in the Chicago papers. He leaves a widow and four children. The children are: William Kyle, Wichita, Kas.; Mrs. Frank Harding, Brooklyn, and Mrs. Alice Maxwell and Mrs. H. W. Phelps, of Rogers Park.

Capt. Kyle's parents lived in St. John's, N. B., and it was while they were upon a visit to England that the future pioneer of Cook county was born in Liverpool. Leaving Buffalo, N. Y., his new home, when eighteen years old, he

went to Chicago and was soon made master of the Major Oliver, one of the best boats of the early lake trade. Upon one of the schooner's trips the young master met a passenger who subsequently became Mrs. Kyle. Sixteen years ago the captain retired from the active life of a lake captain.

SOME WINTER MOORINGS.

The steamers Denver, Van Allen and schooner M. T. Downing will winter at Oswego; steamers Pueblo, Hecla and Monteagle at Ogdensburg; steamer John E. Hall and consort at Buffalo; schooner Thomas M. Dobbie at Toledo.

STARVE ISLAND REEF.

A report submitted to Congress advises against the entire removal of Starve Island reef in Lake Erie, until a systematic scheme for clearing the entire channel to a depth of 20 or 21 feet is entered upon. The estimate of the cost for the removal of all rock above grade a depth of 21 feet is \$258,300, and a depth of 25 feet \$761,250. The engineer who made the survey does not consider that the interests of commerce justify such an enormous expenditure, and concludes therefore that the proposed improvement is not worthy of further consideration. He says the reef is not so great a menace to navigation as submerged rocks in the same vicinity.

NYANZA GETS DEMURRAGE.

The United States Court of Appeals has sustained the decision of the district court in the case of the owners of the steamer Nyanza, against a cargo of coal that the vessel brought to the port of Duluth, in 1895. The decision was in favor of the vessel owners. The vessel met with an accident while on the way to Duluth, and as a result the cargo of coal was damaged by water. The consignee, the Pioneer Fuel Company, declined to accept the coal and the vessel was detained awaiting some disposition of the coal. The court awarded the vessel demurrage to the amount of \$100 a day for eight days. The court held that under the bill of lading the coal company was bound to accept the cargo.

ASHTABULA SHIPPING TRADE.

The receipts of ore at Ashtabula, O., for the season of 1897 have passed the 3,000,000-ton mark, surpassing all records ever made in one year by any one receiving port in this or any other country. The receipts for November were 179,389 tons, which swelled the total for the season to Dec. 1, to 2,984,389 tons, and between midnight, Nov. 30, and noon Dec. 1, 18,181 tons were received on the custom house books, making the grand total 3,002,570 tons.

The coal shipments for November were 177,348 tons, and the total shipments for the season will greatly exceed those of the best previous seasons, owing to the greatly increased facilities for loading, Ashtabula having at present, three car-dumping machines to facilitate the loading of vessels, and it is likely that other important conveniences will be added, ready for next season's work.

LAUNCH OF THE ALGONQUIN.

The U. S. revenue cutter Algonquin was successfully launched from the yards of the Globe Iron Works Co., Cleveland, at 2:30 on Wednesday afternoon, and was christened with the usual ceremony by Miss May Childs, of Cleveland.

The Algonquin, a single screw propeller, is 205 feet 6 inches in length over all, 188 feet between perpendiculars, 32 feet breadth of beam molded, and 17 feet depth of hold. The Algonquin will carry only one gun. However, provisions are made for the addition of more effective armament.

Capt. Russell Glover, superintendent of construction, representing the government, said that it was expected the Algonquin would be more speedy than the Gresham, whose record is twenty-one miles an hour. Recently she traveled eighty-five miles in four hours.

The new cutter will have triple expansion engines, cylinders 25, 37½ and 56½ inches in diameter, and a stroke of 30 inches. Steam will be supplied by four single ended boilers of the Scotch type, each 11 feet 6 inches long. Each boiler will have two corrugated furnaces, and the total grate surface will be 185 square feet. The total heating surface will be 5,300 square feet. The propeller is of bronze, with 13 feet pitch. The vessel will be supplied with steam steering gear, steam windlass and capstans. She will have an electric light plant and a powerful searchlight.

The Algonquin will make a trial trip before she is turned over to the officers of the revenue cutter service, and she will no doubt make a better showing than the Gresham did. She will be located at Detroit.

THAT ARMOR PLANT.

The naval board, appointed by authority of Congress to ascertain the cost of an armor plant, has made its report through Commodore Howell, to Secretary Long.

The report makes a voluminous document, treating every detail of the process of armor-making essential to a correct apprehension of the cost of the plant and of the product. It is also accompanied by elaborate plans for the plant, which have been verified by expert Fritz.

The cost of a plant suitable for the making of naval armor, at the rate of about 6,000 tons per annum, which is fully equal to the capacity of both of the existing private plants, is set down as about \$3,250,000. No recommendation is made as to the location of the plant, but the board has accumulated much information as to the merits of various eligible locations which may be had by Congress if called for.

Secretary Long will now proceed immediately to take the next step necessary to carry out the wish of Congress, namely, invite proposals by advertisement for building such a plant as that designed for the use of the government.

It was at first the intention of the secretary to withhold the report until he should be able to include this information in it, but he has now determined to send in the report and meanwhile put out the advertisements and notify Congress of their results later.

It is expected that Congress will be advised also of the offers made by both the existing armor-making concerns to sell out to the government, and also of other large interests to turn over plants, which, while not at all like the specifications of the board, will permit of alteration into effective plants.

All of this data, it is expected, will be very valuable to Congress in treating the whole armour question, but the report of the board, which may be strengthened by an endorsement from Secretary Long, will make it quite evident that the government cannot undertake to make its own armor at the cost named as the limit of price to be paid to private firms in the last naval appropriation bill.

A GOOD INVESTMENT.

Vesselmen estimate that the elevator which Armour & Co., and Bartlett, Frazier & Co., built on their joint account at Buffalo last winter has fully paid for itself. About 20,000,000 bushels of grain have been handled during the season. The charges according to the schedule of the old Buffalo pool, would have been \$185,000. The profits from shoveling charges would have more than paid the expenses of running the elevator. The general opinion is that with the beginning of another season the elevator charges at Buffalo will drop something like 50 per cent. Marine men cannot understand how the old elevators can allow newcomers to make 100 per cent. on their investment in a single season, while many of the older elevators have done practically nothing.

NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DIST.,
CHICAGO, ILL., Dec. 3, 1897.

Notice is hereby given that light-ships Nos. 55, 56, 57 and 60 in northern end of Lake Michigan and Green Bay, Michigan, will leave their station for the winter on or about Dec. 10, 1897.

Referring to notice to mariners, issued Dec. 3, 1897, light-ship No. 60, Eleven Foot Shoal, Green Bay, Mich., had at abandon her station for the winter on account of danger from ice.

By Order of the Light-House Board:
E. H. C. LENTZE, Comdr. U. S. Navy,
Inspector 9th Light-House District.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 10TH DIST.,
BUFFALO, N. Y., Dec. 6, 1897.

Notice is hereby given that the buoys in the Niagara river will be taken up for the winter on or about December 15th next. The buoy on Waverly Shoal will be taken up about the same date. THEODORE F. JEWELL, Comdr. U. S. N.,
Inspector 10th Light-House District.

CAPT. ALEXANDER MCDOUGALL, manager of the American Steel Barge Co., expresses the view that the two cities at the head of the lakes should own jointly a powerful ice breaker for the purpose of keeping the harbor and slips open in the Duluth-Superior harbor during weather such as is now experienced. Such a boat could be made available at fires on the water front, says the captain, and could be made very serviceable in other ways. A boat such as Capt. McDougall suggests would cost about \$40,000 and would easily pay her way in the course of a short time. The captain expects winter navigation to be an early achievement.

H. C. BURRELL,

Marine Reporter.

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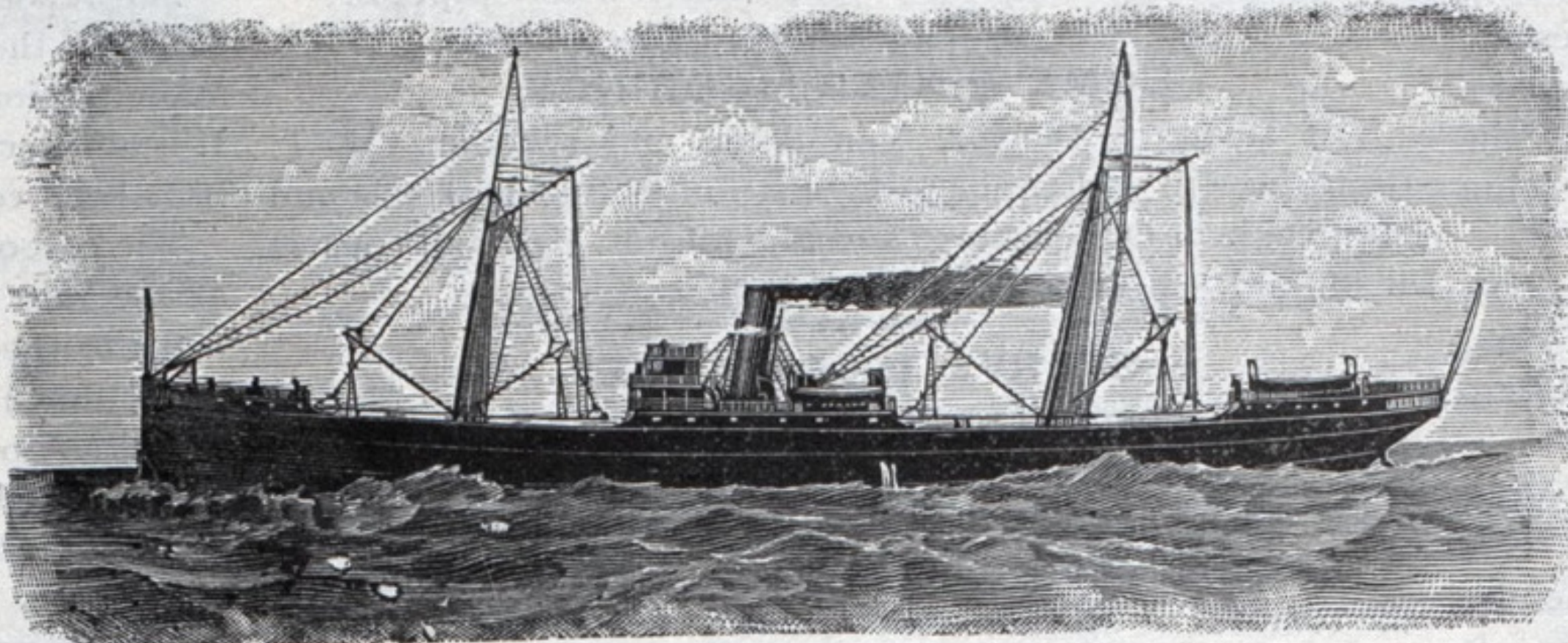
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MARITIME LAW.WASHBURN & MOEN MANUF'G CO. V. RELIANCE MARINE
INSURANCE CO.RELIANCE MARINE INSURANCE CO. V. WASHBURN & MOEN
MANUF'G CO.

Circuit Court of Appeals, First Circuit. Sept. 7, 1897.

1. MARINE INSURANCE—LIABILITY FOR CONSTRUCTIVE TOTAL LOSS.—Underwriters are not liable for a constructive total loss, except where they consent to an abandonment under a policy containing a warranty against partial loss.

2. SAME—ACCEPTANCE OF ABANDONMENT.—Underwriters, under the "sue and labor" clause of a policy, can not be charged with the acceptance of an abandonment, simply because they caused the property to be preserved, and removed from a place where there was no agent of the assured, no adequate means for its protection, and no market, to the place to which it was originally shipped, where were conveniences for its protection, and a good market, and there offering it to the representative of the assured, to whom it had been, in the first instance, consigned; especially where the assured had no right to abandon.

In error of the Circuit Court of the United States for the district of Massachusetts.

Before Colt, circuit judge, and Nelson and Webb, district judges.

WEBB, District Judge.—In the course of the disaster a part of the property insured, exceeding in amount 5 per cent. of the whole, was totally lost, and for this a verdict was taken for the plaintiff by consent. As to the rest of the property insured, it is evident that the principal question in these cases is the ruling that the insurance company is not liable for a constructive total loss. The Massachusetts court has held that a policy like the one now before us, containing a warranty against partial loss, does cover a constructive total loss. *Kettell v. Insurance Co.*, 10 Gray, 144; *Heebner v. Insurance Co.*, Id. 131; *Greene v. Insurance Co.*, 9 Allen, 217; *Mayo v. Insurance Co.*, 152 Mass. 172, 25 N. E. 80. These decisions of the state court, however, are not conclusive upon this court. The questions under our consideration are questions of general commercial law, and depend upon the construction of a contract of insurance, which is by no means local in its character, or regulated by any local policy or customs. Whatever respect, therefore, the decisions of

state tribunals may have on such a subject—and they are certainly entitled to great respect—they cannot conclude the judgment of this court. On the contrary, we are bound to interpret this instrument according to our opinion of its true intent and objects, aided by all the lights which can be obtained from all external sources whatsoever; and, if the result to which we have arrived differs from that of these learned state courts, we may regret it, but it can not be permitted to alter our judgment." *Carpenter v. Insurance Co.*, 16 Pet. 495, 511. The supreme court, in the exercise of the duty so avowed, has examined this question, and pronounced the judgment that under such a policy as that in these cases a constructive total loss is not covered. *Marcadier v. Insurance Co.*, 8 Cranch, 39; *Morean v. Insurance Co.*, 1 Wheat, 219; *Hugg v. Banking Co.*, 7 How. 595. In *Insurance Co. v. Fogarty*, 19 Wall. 640, that court reviewed these cases without in any way qualifying them. They are imperative authorities here, and, regarding them as controlling us, there will be no advantage in extending this opinion by citation and discussion of the numerous and conflicting decisions of state courts upon the same question. It follows that the plaintiffs had not the right to abandon, and inquiry into the sufficiency of the assumed abandonment is of no use.

It has been urged upon us that insurers may make themselves liable by accepting an abandonment, and their subsequent dealing with the property, even when there is no right to abandon. Allowing this to be so, we agree with the circuit judge that in this case the evidence was not sufficient to authorize the jury to find that the defendant ever accepted the abandonment or did anything in respect to the property insured that was equivalent to an acceptance. This court does not entertain the view of the circuit court that the underwriters chartered the *Cactus*, and forwarded by her the cargo from Key West to Velasco. Considering the whole evidence upon that point, the sounder opinion is thought to be that, those things, if not done by the immediate action of the captain of the *Benjamin Hale*, they were at least done under his authority, and with his approval.

Before he left Key West, but after the *Benjamin Hale* and her cargo had arrived there, he authorized Taylor & Curry the agents at that port of his vessel, to charter the *Cactus*, if they could. When she was afterwards chartered, the charter party purports to be made and concluded between the agents of the *Cactus*, of the first part, and John Hall, master of the *Benjamin Hale*, of the second part; and it is signed "John Hall, Master of Sch. *Benj. Hale*." It is true that the underwriters' agents advised that the cargo be forwarded. But leaving this question undetermined, the underwriters, under the "sue and labor" clause of the policy, can not be charged with the acceptance of an abandonment, especially as the insured had no right to abandon, simply because they caused the property to be preserved, and removed from a place where there was no agent of the assured, and where there was no market, and where there was no adequate means for its protection, to the place to which it was originally shipped, where were a good market and conveniences for its protection, and there offering it to the representatives of the insured, to whom it had been, in the first instance, consigned. Such labor and care for the preservation of the property did not make them liable for a total loss if the property was forwarded by the first available conveyance, and without unnecessary delay, as in this case. The decision of this court in *Monroe v. Insurance Co.*, 3 C. C. A. 280, 52 Fed. 777, disposes of the contention that the sale of *Velasco* entitles the plaintiff to recover for a total loss.

Finally, no error is found in the court below, and its judgment will be affirmed, but, as both parties have sued out writs of error, and neither has sustained his exceptions, the costs of this court must be equally divided. Judgment affirmed; costs of the Circuit Court of Appeals to be divided equally.

LITERARY NOTICE.

In the *North American Review* for December, Capt. A. S. Crowninshield, U. S. N., Chief of the Bureau of Navigation, treating of "The Dream of Navigators," dwells forcibly upon the necessity, in both a political and commercial sense, of

the United States hastening the completion of the Nicaragua canal. "It will build up our Pacific Coast states," says Capt. Crowninshield, "as they must be built up if we are to properly face the Orient. It will add immeasurably to our naval power, and it will increase our influence not only far out into the Pacific ocean, over the islands and waters of that vast region, but also over the Caribbean sea and adjacent waters." Mr. Albert D. Vandam, author of "An Englishman in Paris," writes entertainingly of "Officers in the French Army," describing military training discipline and promotion as it exists in France, and contrasting it with that of Germany. Prof. R. H. Thurston, director of Sibley College, Cornell University, comes to the help of the Engineer Corps of the Navy, to which he once belonged. In his article he says: "So far depleted has become the engineer corps that not an officer can be detailed for duty to inspect the iron and steel furnished for ordnance; only one is detailed for inspection of armor; but two are to be found at the Boston Navy Yard, only seven at League Island, and a baker's dozen or so at the New York Yard. Not an officer is on the list of lecturers at the War College at Newport, and not one at the torpedo station. Meantime, of the deck officers, 338 were, at the time these figures were gathered, at sea, and nearly 400 were on shore duty, of whom 90 were in the city of Washington. The iron and steel inspection boards, altogether, include but one-seventh engineer officers. The remainder are professionally inept. The tremendous strain which has come upon this splendid body of officers through the gradual increase in the extent and difficulty of its work and the decrease in its numbers, is reflected in the following instructive and pathetic figures: On the 1st of January, 1886, there were only 293 officers in the corps, and of these 71, or one-fourth, were already on the retired list; but by January 1, 1896, the previously terrible record had become 173 on the active and 104 on the retired list—nearly two-thirds as many on the latter as on the former list. No such startling statistics are to be found in the annals of our own or of any other navy. At this rate the retired list will soon become longer than the active list, and destruction of a faithful and patriotic body of men must, under existing cir-

cumstances, go on with continually increasing rapidity, until a final crash disables the whole naval service more completely than would be the explosive destruction of all its guns."

VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Buffalo.....	1,939,000	1,508,000	402,000	170,000	1,333,000
Chicago.....	5,614,000	17,764,000	1,769,000	617,000	865,000
Detroit.....	221,000	86,000	7,000	33,000	82,000
Duluth and Superior	2,632,000	1,034,000	873,000	905,000	476,000
Milwaukee.....	146,000	178,000	77,000	21,000	47,000
Montreal.....	87,000	85,000	264,000	31,000	28,000
Oswego.....	16,000	100,000	.....	.....	51,000
Toledo.....	262,000	719,000	372,000	26,000	.....
Toronto.....	36,000	.....	6,000	.....	60,000
On Canal.....	17,000	.....	127,000	.....	49,000
On Lakes.....	3,202,000	2,326,000	2,218,000	320,000	814,000
On Mississippi.....	105,000	.....	.....	.....	.....
Grand Total.....	34,845,000	39,949,000	15,462,000	3,553,000	4,750,000
Corresponding Date, 1896.....	56,312,000	17,405,000	12,297,000	2,464,000	4,834,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific slope.

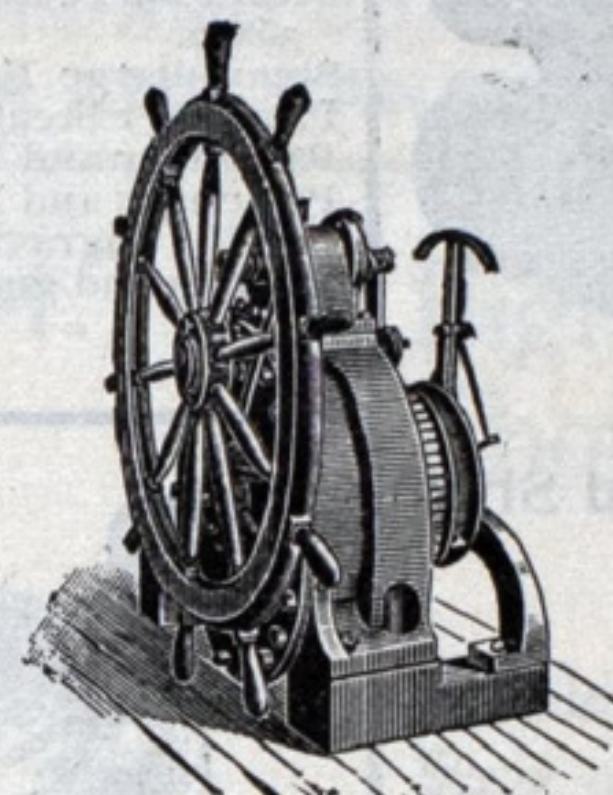
NOTES.

THE hardy mariners who were the pioneers in polar discovery achieved wonders, considering that they had everything to learn about methods of arctic work, and their vessels and equipment were very inadequate. One of the greatest of all arctic voyagers was the man who commanded the first true polar expedition, William Barentz. He sailed from Holland in 1594 on the little fishing smack, Mercurius, and the object of his voyage shows how ignorant the merchants and seamen of those days were as to the navigability of arctic seas. Barentz pushed into the unknown for the purpose of sailing around the north end of Nova Zembla and finding a northeast passage to China; and so for a month he skirted the wall of ice that barred his way, seeking in every

direction for a lane by which he might travel through the pack, putting his vessel about eighty-one times, and traveling back and forth along the ice edge for 1,700 miles. The highest north he attained during this careful examination of the ice edge was 614 statute mile south of the highest point reached by Nansen, or 874 miles from the pole.—Harper's Weekly.

In his paper on torpedo-boat design, now before the Society of Naval Architects, Mr. A. F. Yarrow said that a torpedo boat built by his firm for the Chilean navy crossed the ocean, a distance of 11,000 miles, under her own steam, without replenishing her coal bunkers. The trial test of the boat for the government was made two days after her arrival in a Chilean port, before her boiler was cleaned. She stood the test in a most satisfactory manner. Speaking on the subject of high speed, Mr. Yarrow said: "It is a serious question to me whether extreme speed should not be sacrificed for the factor of safety to her crew. For example, a sheathing of steel of, say, one-half inch thick would be a protection against the small arms of an enemy, with the comparatively trifling sacrifice of from one-half knot to one knot in speed. Another feature that must be considered is the extremely high cost of an ultra fast torpedo boat. With a fixed cost for a vessel with power to drive her at the rate of twenty-seven knots, the cost to evolve a thirty-knot boat will be at least 50 per cent. greater."

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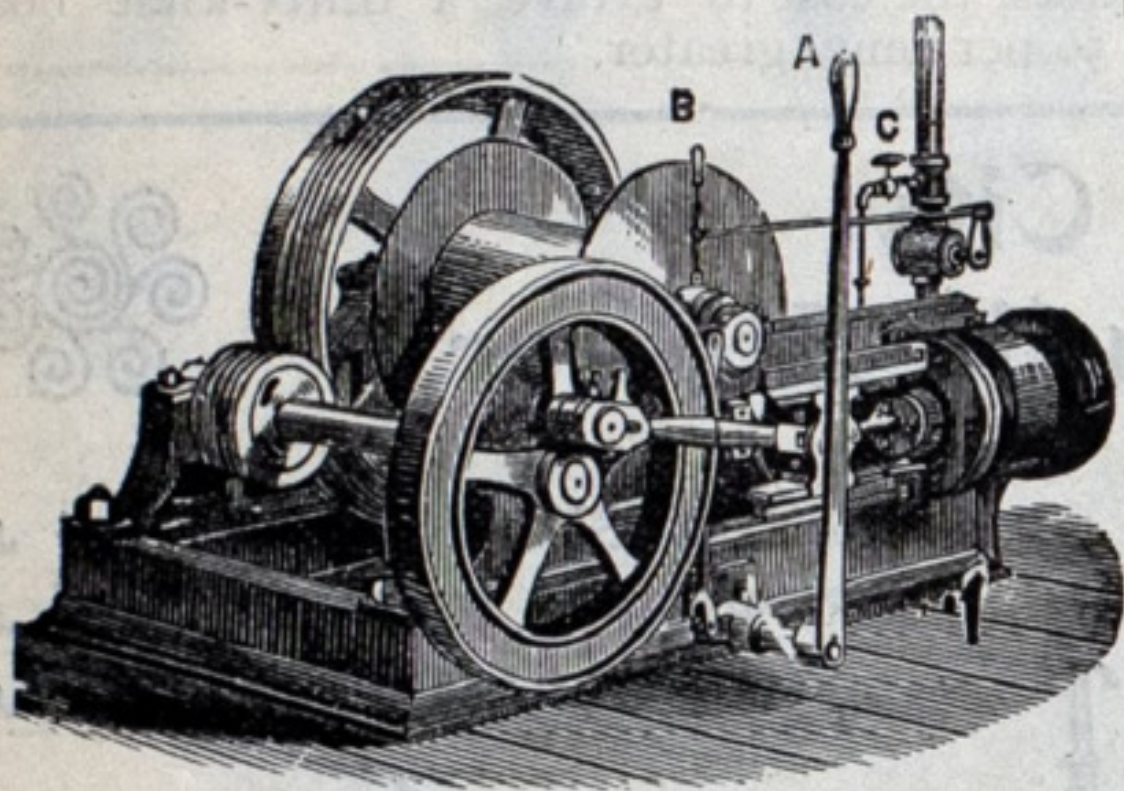
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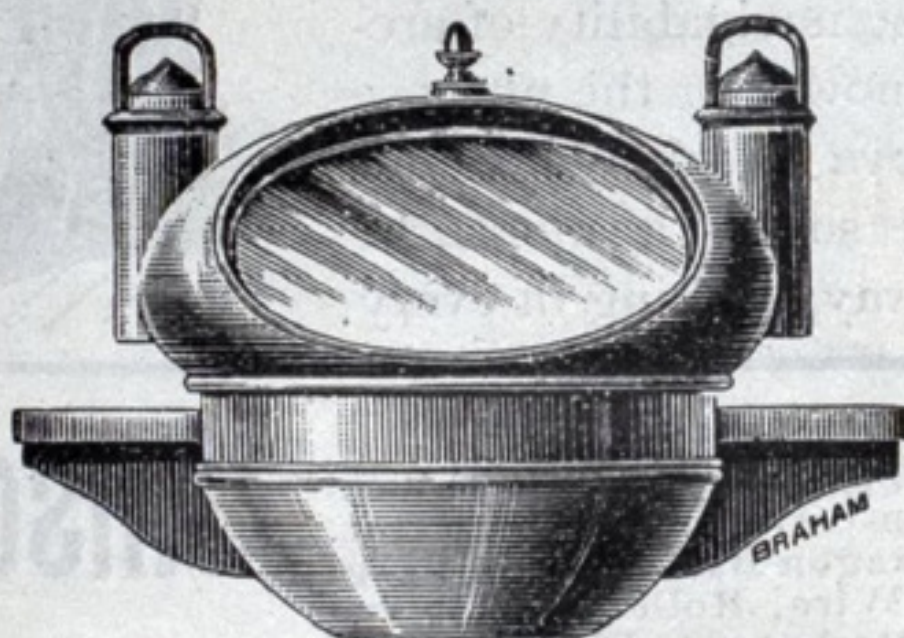
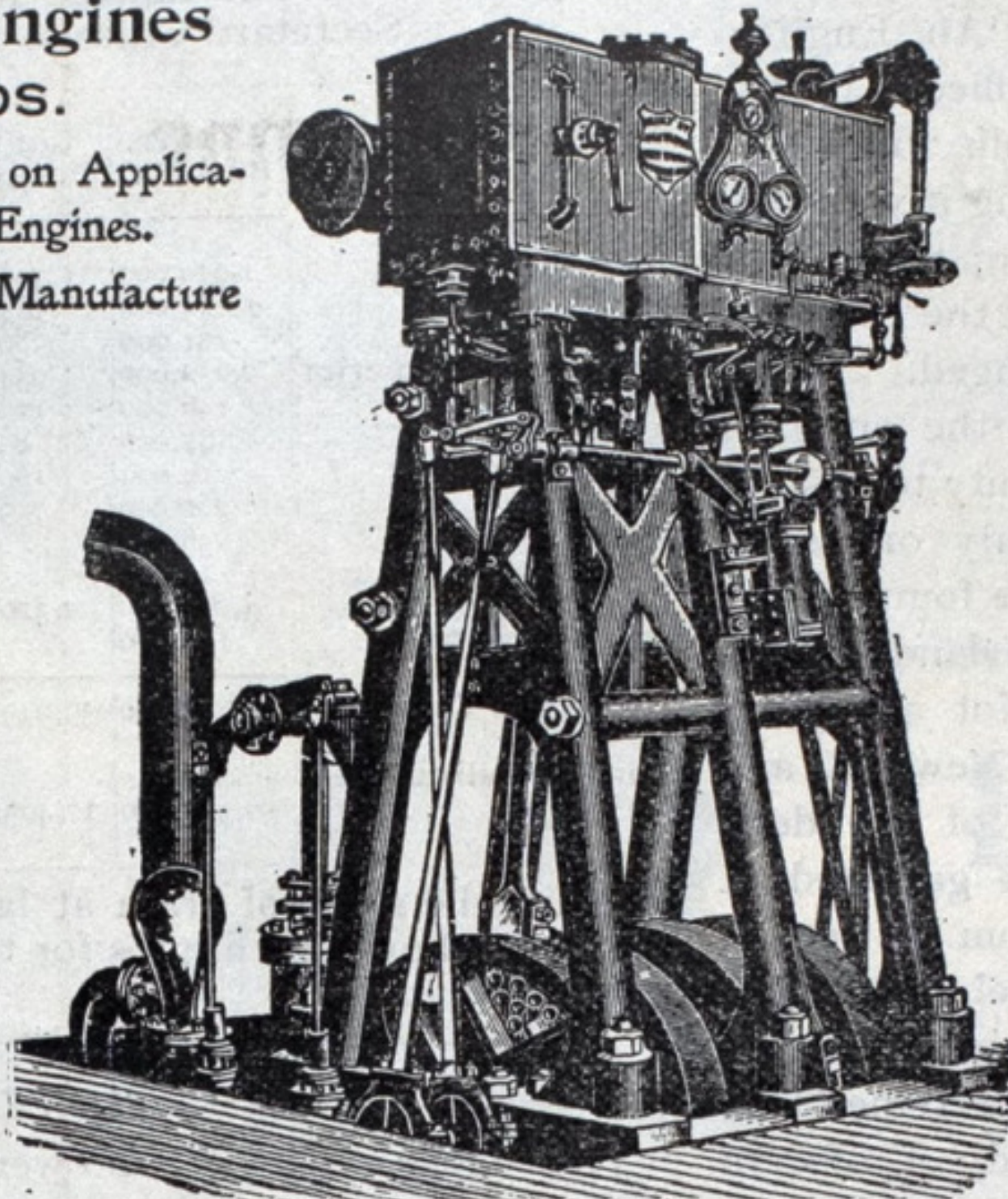
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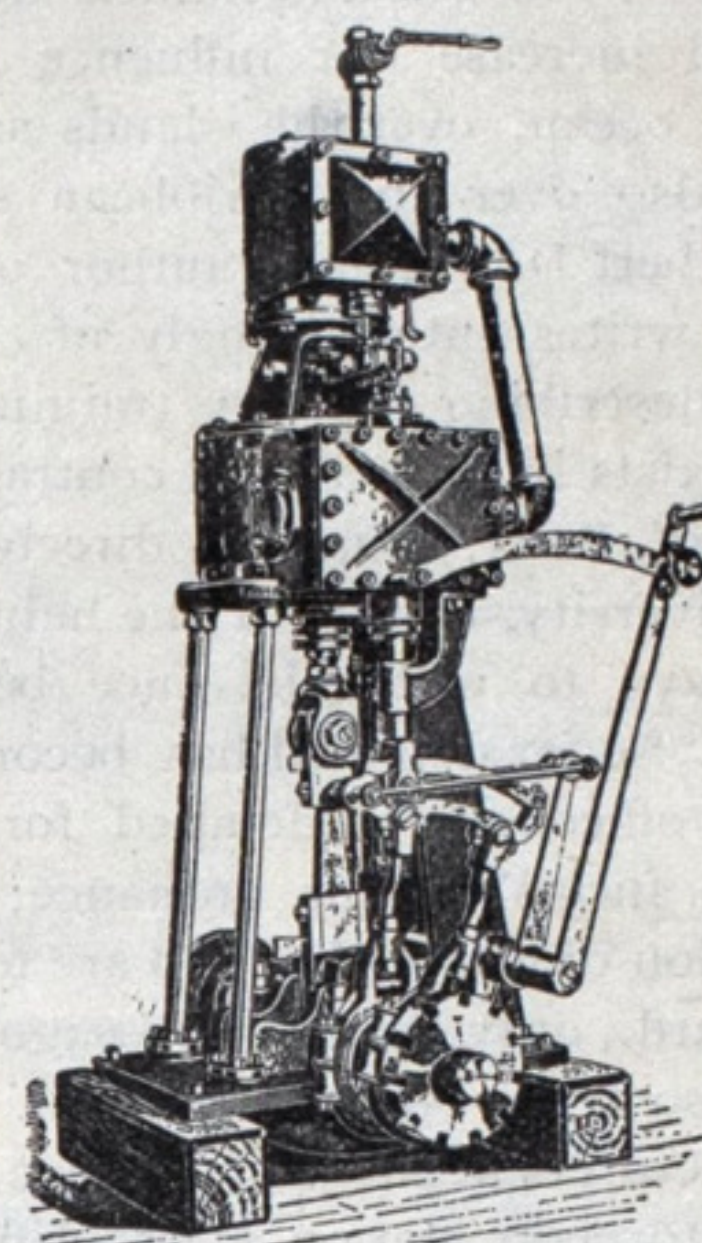
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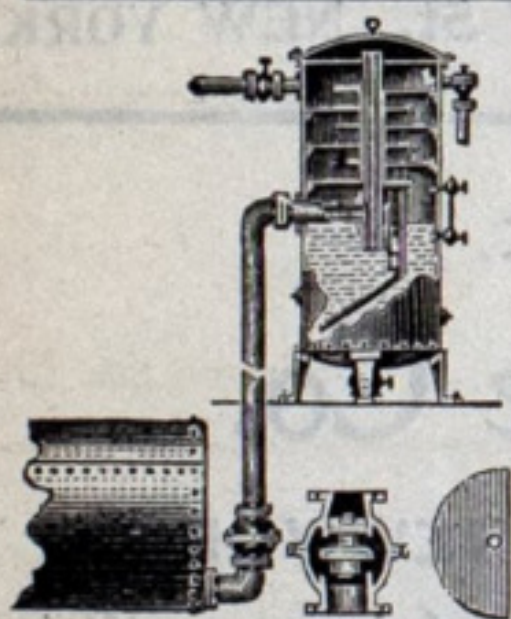
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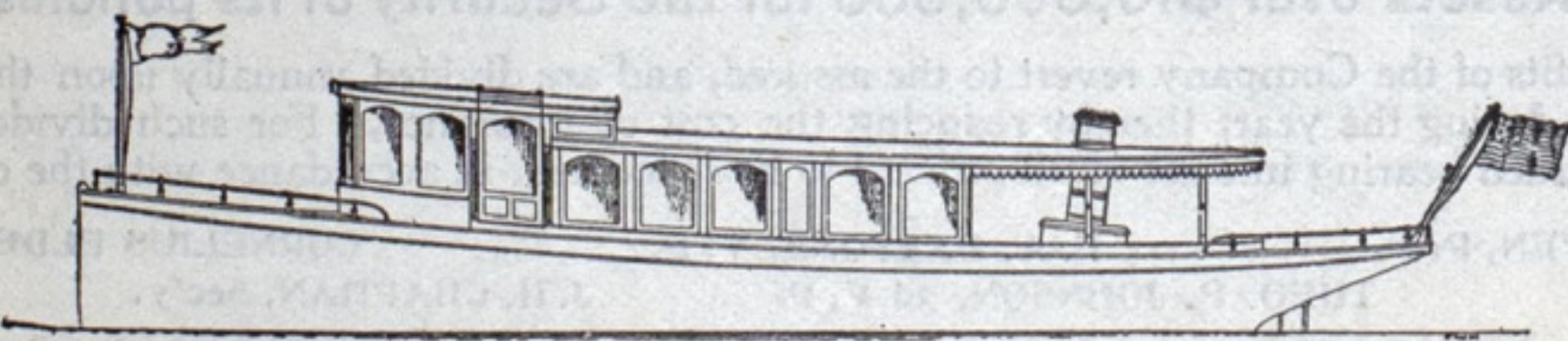
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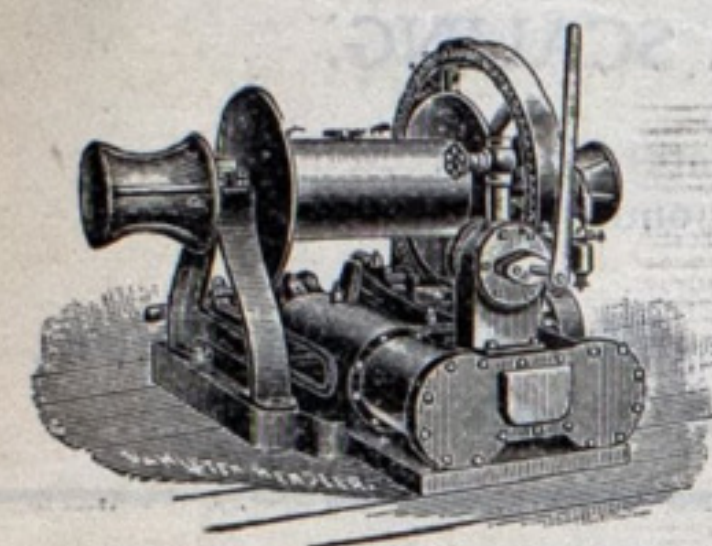
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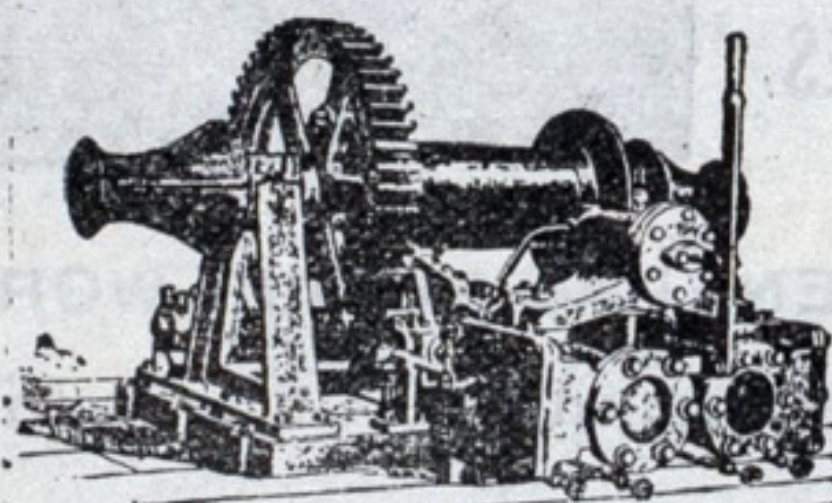
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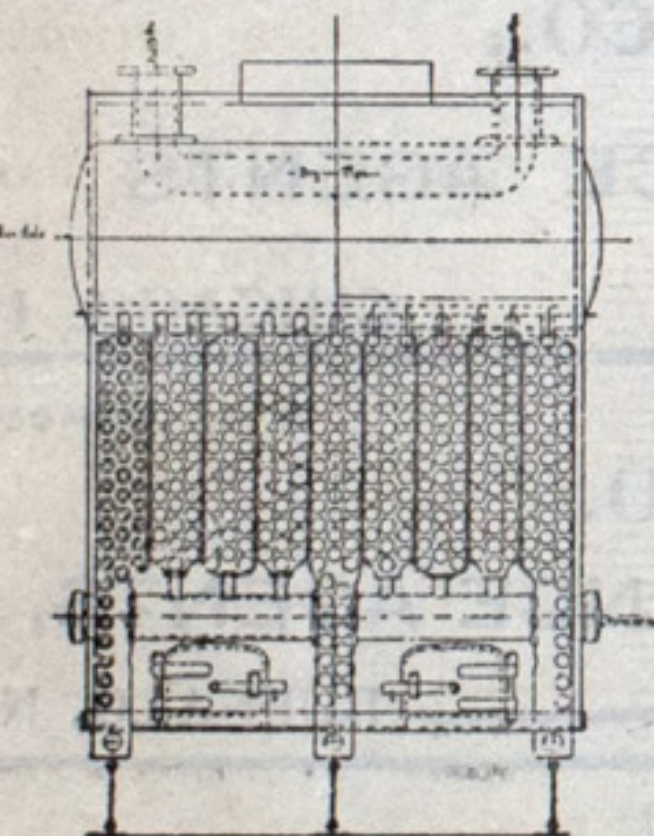
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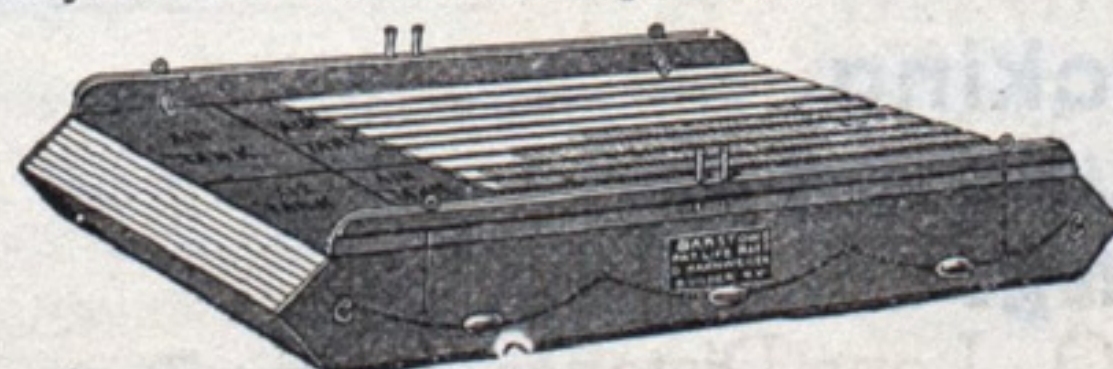
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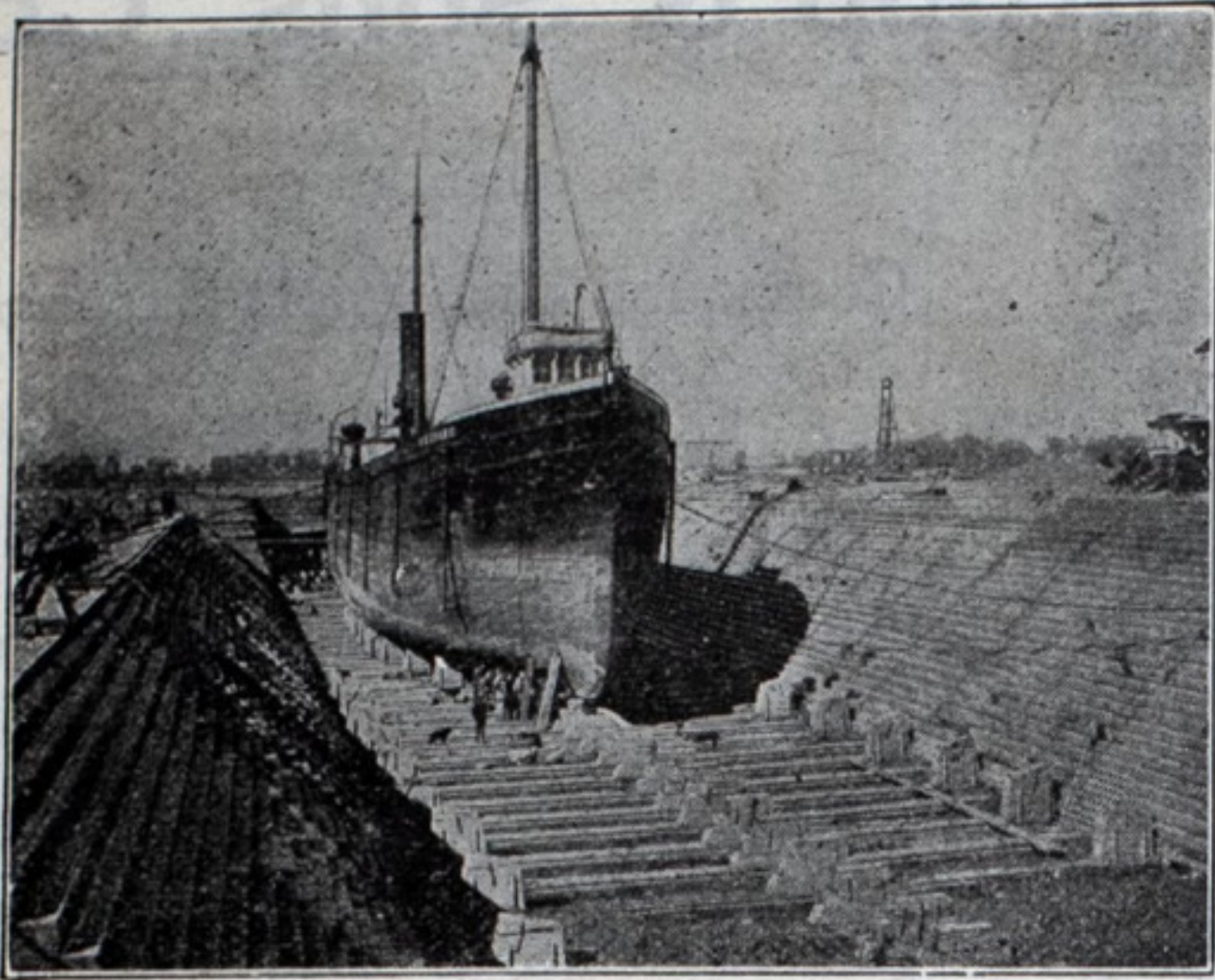
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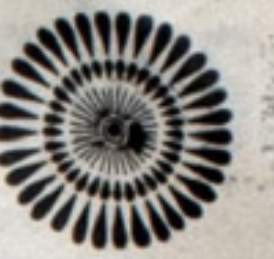
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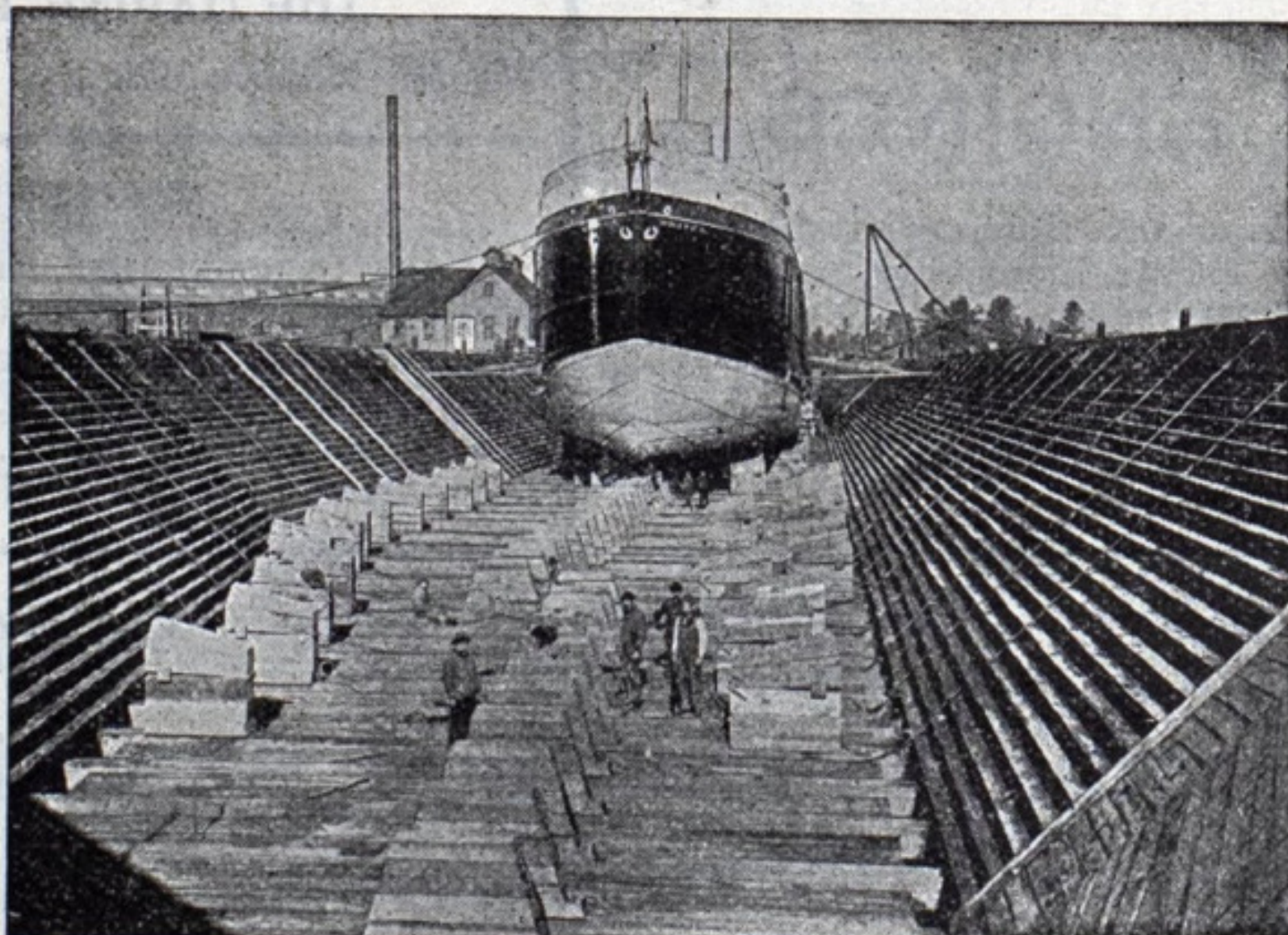
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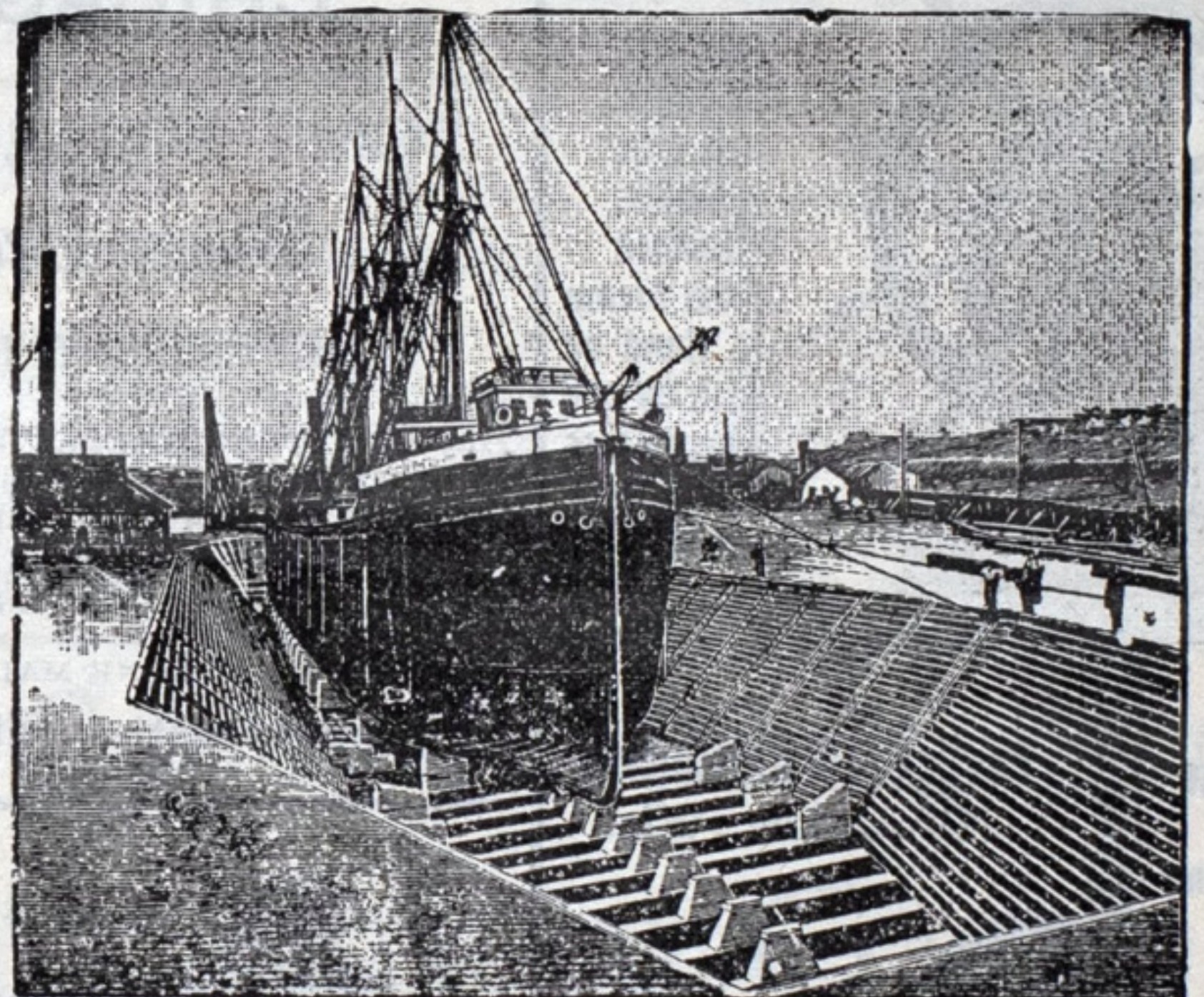
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